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ABSTRACT

This report examines the strengths and weaknesses of the following 12 microcomputer programs: (1) Language Teacher Series: TRS-80; (2) Language Teacher Series: Atari; (3) Apfeldeutsch; (4) Author I; (5) Dasher; (6) The Definite Article; (7) Flashcard; (8) German Packages I, II, and III; (9) German Vocabulary Builder; (10) The Linguist; (11) Micro-Deutsch; and (12) Voice Recognition. An introductory discussion describes the development of the software evaluation criteria used, which were subsequently embodied in an evaluation form addressing 46 specific program features. The evaluation results presented, with commentary, for each of the 12 programs focus on program features which involve content, support materials, presentation, stimulation of student interest, and utilization of computer techniques. Overall evaluation in these areas is summarized first, along with a listing of level, system requirements, price and source. Appendices include the identification of technical flaws in specific programs, the evaluation criteria form for review of foreign language microcomputer teaching programs, a glossary, a list of German programs not evaluated and programs for other foreign languages, and a five-page bibliography. (LMM)

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Microcomputer Software for Teaching German: an Evaluation

by

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RESEARCH ESSAY AND

ABSTRACT OF DOCTOR OF ARTS RESEARCH ESSAY

Submitted in partial fulfillment of the requirements
for the degree of Doctor of Arts
in the Graduate School
of Syracuse University
May 1983

Approved _____ Approved _____

Date 2 June 1983

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ABSTRACT

This Doctor of Arts project examined the strengths and weaknesses of twelve representative microcomputer programs for teaching German. An important aspect of the project was developing criteria for the evaluation of software of this type. The results will interest instructors of any language who consider purchasing microcomputer software and to software producers who are concerned about improving the quality of programs. Recommendations include: (1) accurate and appropriate selection of content items; (2) a stimulating variety of presentation formats; (3) substantive feedback based on prior error analysis; (4) high degree of interaction between student and computer (with emphasis on student control of--and mobility in--the program); (5) integrating computer program with textbook and classroom activities; (6) clearly written, informative support literature; (7) thorough field-testing of programs prior to marketing; and (8) close cooperation of teacher, programmer and documentation-writer to help assure quality in all aspects of design and implementation.

The criteria developed during this project are embodied in an evaluation form that addresses forty-six specific program features involving content, support materials, presentation, stimulation of student interest and utilization of computer techniques. The evaluation form was used in examining each of the twelve programs, and the results are tabulated with commentary for each. Most items on the evaluation form are also appropriate for other foreign languages and other disciplines.

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INTRODUCTION

Computer Assisted Instruction (CAI), long the prerogative of computer specialists, and for the typical teacher only a vague and ill-defined term, is asserting itself increasingly. With the very recent and rapid spread of microcomputers, a growing number of teachers on all levels are coming in touch with the potential of computer-controlled presentation of instructional materials.

The present report grew out of my efforts as a teacher with years of training and classroom experience in foreign languages--but none in computer science--to explore the potential of CAI on microcomputers for teaching my native language, German. The motivation behind my efforts was the feeling that the ability of CAI to realize its potential would depend in part on its accessibility to teachers like me.

It may be helpful to begin this report with a brief retrospective on CAI and on my initial contact with it.

The CAI movement has its roots in early experiences with programmed instruction (PI), particularly to B.F. Skinner's work in the 1960's, which stimulated research on the application of the principles of reinforcement learning theory to practical classroom teaching situations.[1] In the 1960's and early 1970's, development of the computer as an aid to instruction continued, but it was limited by costs, technical requirements and other barriers to a small group of dedicated experts. The average educator played no significant role in this development. By the late 1970's the plummeting cost of hardware resulted in a sort of "computer revolution," so that today computers and their software have already arrived in many schools and are expected to reach most others in the next few years. The question now is: can CAI on microcomputers fulfill the promise of its limited development to date? In particular, can the ubiquitous new hardware be put to good educational use by teachers trained to teach the traditional subjects in the traditional ways?

CAI refers to highly individualized education using an electronic medium to present instructional materials. The general situation for CAI changed drastically with the arrival of the microcomputer. Microcomputers are powerful, versatile, self-contained, easy to run, designed to stand up under heavy use and "small enough to hug."[2] As software for micros is becoming more and more available, the need for guidance in both the design and selection of this software becomes more pressing.

As it has been developed for both large and small computers to date, CAI typically involves drill and practice and some form of evaluative response from the computer. There is general agreement that interaction between student and computer should be dynamic and that the "learner and the technology work together to enhance the student's educational experience."[3] Commercially prepared programs now available for microcomputers range from packages with fixed content to relatively flexible formats intended for instructor "authoring" in a variety of subjects. I should perhaps anticipate somewhat and state right away that the most

useful foreign language programs I have seen up to this point are of this latter type, where the instructor adds the content. They offer the greatest adaptability to specific teaching situations and learning goals.

Since I am one of the instructors for whom such software is being developed, and since I have long sought ways to make my own teaching more effective, I decided to become "literate" about computers, assemble a representative selection of existing microcomputer software, evaluate it and come to some decision about its present and potential usefulness for my particular purposes. This has led to the present evaluation of available software for teaching German. The initial motivation for the project was self-instruction. But to the extent that my reactions and conclusions have a wider application, I have designed this report with an eye to providing some guidance to both software producers and other language instructors.

When I started, I knew nothing. The only advantage I had were my eleven years of language teaching experience and my advanced degree

specialization in two areas: in German language, culture and literature and in media, communication and instructional development. Syracuse University provided a grant for the purchase of German and other foreign-language software which I have been evaluating. After running the programs as a student would, then analyzing the programs and observing some of my students while they used them, I gradually developed my own set of evaluation criteria.

Part of the conceptual spadework for my project was devoted to refining these criteria and reducing them to a series of questions that could be conveniently grouped into an evaluation form. At first this was based primarily on "interaction" with the programs themselves; it gradually became clear to me what a "good" software package must have. But I have learned much also from similar forms already published.[4] None of these evaluation forms proved entirely suitable to my needs. Especially helpful, however, were the post-evaluation commentaries in the project sponsored by the National Endowment for the Humanities at the University of Delaware in July, 1982. In evaluating their own evaluations

of foreign language software, several teachers involved in the project conceded that many of their original evaluation questions were either difficult to answer precisely or not applicable to the program at hand. As a result, a number of important questions remained unanswered, or unasked, after their evaluations were completed. Some of these have been incorporated into my evaluation form. I believe this form now provides a useful format for evaluating the features that characterize desirable microcomputer programs for foreign language instruction. One advantage I found in using this rating sheet was the ability to draw a sort of "visual profile" by inking in each entry line up to its circled answer. At a glance, then, I could see where a program shows its greatest strengths and weaknesses. (A blank version of the form is reproduced in Appendix B.)

I learned that in evaluating software of this type, one must look closely at five major areas: accuracy of content, program support documentation, instructional quality of content presentation, motivation of student interest, and applicability

of computer techniques. To begin with, the content information must be accurate, that is, a true representation of the language as it is currently spoken and written.[5] The content should be pitched to the appropriate student level. Furthermore, the content must be free of regionalisms and stereotypes masquerading as reality.

Support materials are the second major concern. They must be well organized, clearly written and easy to understand. If the documentation is clear about the program's goals and uses, teachers can more easily decide whether and how the program should be integrated into their curriculum.

In the third area, the presentation of content, we ask whether the program has clear and achievable goals, whether the presentation of the content embodies sound methods of language instruction, and whether the program is suitable or adaptable for adjunctive use with a variety of textbook(s). Of particular interest, for example, are the vocabulary items chosen, the length of each lesson and, in some cases, the ease with which the instructor can modify the program.

The fourth area of interest is the degree to which student interest is generated and sustained. Of concern here are such matters as screen format, the basic appeal of the program presentation and the degree of mobility a student has to move around within the program, i.e., to "interact" freely with the computer. Since microcomputer software has sometimes been criticized for being intrinsically boring, it is important to determine whether a package incorporates adequate motivation to foster student creativity and interest. Ultimately, it is a lack of motivation that turns both students and teachers away from the computer as a viable instructional tool.

The final area of evaluation is the degree to which the strengths of the computer have been utilized. Important here, for example, are how easily a program is entered and exited, how easily help is provided and, in some cases, how easily a student can have lesson results printed out on paper.

Since frequent interaction demands more concentration on the student's part and thereby aids

learning, another index of a program's instructional qulity is the extent to which it provides appropriate reinforcement or feedback to students. Explanation of errors should deal primarily with substance and stay on the screen long enough for learners to come to grips with their problems. But most importantly, the computer's branching capabilities should be exploited to make the program resilient to the students' skill levels, e.g., by tutoring where needed or branching to other less or more advanced sections when appropriate, much as a private tutor or teacher would.

Technical qualities to be considered include use of color, sound, graphics and animation, speed and reliability of operation, and ease in handling accent marks, special characters and upper and lower case letters from the keyboard.

The evaluation form concludes with an invitation for comments from the reviewers, should the rating sheet not have addressed areas of concern to them, or if they have additional information to contribute.

The main subject of my report is the result of detailed evaluations of twelve commercially available

software programs designed to help in teaching German with microcomputers. Some programs warranted closer scrutiny than others, a factor largely dependent on the level of the program's complexity and sophistication. Availability of hardware, funds and the like, set definite constraints on the project, but a serious attempt was made to examine a representative sampling. All of the widely-distributed programs presently available for German microcomputer instruction were examined, as were several programs for other languages. The discussion proceeds in alphabetical arrangement, with two exceptions. The Language Teacher Series is discussed first for the following reasons: the structure and the content of the program warranted closer scrutiny; the program displayed generalizable weaknesses and strengths; it, therefore, served as a reference model during examination of the other programs. The evaluation began in May, 1982, and continued, as materials became available, until April, 1983. I attempted to approach each program from the perspective of a non-technical user, an instructor new to this experience, and I sought to keep in mind

the situation of the students I imagined using the program. My specific evaluation responded to questions that I, as a "student," and several other students had and I kept a record of these questions while running the programs. (See student comments for German Package I from Micro-Learningware.) It is of course also based on what I have learned about foreign language teaching from my experience as an instructor in high school and college classrooms.

Each evaluation begins with information about the source, price, student level and hardware/system requirements, and with a chart summarizing the overall rating in the major categories (e.g., the summary results of the particular questions addressed in each category). This general overview is followed by considerations of specific program-features. In selecting these features for discussion I have sought to provide insight into the characteristic strengths and/or weaknesses of the programs. This discussion is followed by the evaluation form, with my responses to the specific questions for that program. Minor details about each program can be

found in Appendix A. I have attempted to keep the presentation relatively free of computer jargon, but for occasional clarification a glossary of technical terms can be found in Appendix C. A list of German programs not evaluated and microcomputer programs for teaching other foreign languages are included in Appendix D. and E.

The report concludes with a chapter summarizing both my conclusions about the strengths and weaknesses of the programs reviewed and my recommendations on how these strengths can be developed further in future microcomputer-based software for learning German.

Notes

[1] Gerald Gleason, Index to Computer Assisted Instruction (Boston: Sterling Institute, 1970), p. ix.

[2] Eugene Gallanter, Kids and Computers: The Parents' Microcomputer Handbook (New York: The Putnam Publishing Group, 1983), p. 87.

[3] Wagers-Horn, The VBLS™/Voice-Based Learning System (Denton, Texas: Scott Instruments Corporation Publication, 1982), p.4.

[4] The Summer Institute for Computer-based Education, sponsored by the National Endowment for the Humanities and the University of Delaware under the direction of Gerald R. Culley, developed important criteria in 1982. The International Council for Computers in Education (ICCE) also designed excellent evaluation concepts routinely used for evaluations published in Infoworld. Additionally, the Center for Instructional Development (CID) here at Syracuse contributed valuable suggestions.

[5] For standards of accuracy, appropriate volumes of the Duden may be consulted: Duden: Rechtschreibung, 16th ed. (Mannheim: Dudenverlag, 1967); Duden: Stilwörterbuch, 6th ed. (Mannheim: Dudenverlag, 1970); Duden: Hauptschwierigkeiten der deutschen Sprache (Mannheim: Dudenverlag, 1965).

LANGUAGE TEACHER SERIES: GERMAN I, and GERMAN II
by Cindy and Andrew Bartorillo

OVERALL EVALUATION

	Poor	Fair	Good	Excellent
CONTENT		X		
SUPPORT MATERIAL		X		
PRESENTATION		X		
STIMULATION OF INTEREST		X		
COMPUTER TECHNIQUES		X		

LEVEL

High School
College

SYSTEM REQUIREMENTS

TRS-80 Models I, III
32K
One disk drive
Printer desirable

PRICE

$29.50 Each (both 59.00)

SOURCE

Program Store
P.O. Box 9582
Washington, D.C. 20016
Tel. (800) 424-2738

CONTENT

The two sets of programs, each on a separate disk, are menu-driven. The user simply selects the desired options. Listing these menus here may serve to suggest both the content and the structure of the programs.

GERMAN I

Options Available:

A. NOUN VOCABULARY DRILL
B. VERB VOCABULARY DRILL
C. MISCELLANEOUS WORD VOC. DRILL
D. RAND. SEL. VOCAB. DRILL
E. PHRASE TRANSLATION DRILL
F. VERB CONJ. DRILL
G. RETEST MISSED VOCAB. PHRASES
H. DIAGNOSTIC RESULTS
I. PRINT NOUN VOCAB. TEST
J. PRINT VERB VOCAB. TEST
K. PRINT MISC. WORD VOC. TEST
L. PRINT RAND. SEL. VOC. TEST
M. PRINT PHRASE TEST

GERMAN II

Options Available:

A. NOUN VOCAB. DRILL
B. VERB VOCAB. DRILL
C. MISC.WORD VOC.DRILL
D. RAND.SEL.VOC.DRILL
E. VERB CONJ. DRILL
F. RE-TEST MISSED VOC.
G. DIAGNOSTIC RESULTS
H. PRINT NOUN VOC.TEST
I. PRINT VERB VOC.TEST
J. PRINT MISC.WORD VOCAB. TEST
K. PRINT RAND. SEL. VOCAB. TEST

German I, the initial program-set, recognizes 800 German/English word combinations, 1650 verb conjugation forms and 158 German/English phrase combinations. One can choose German-English, English-German combinations, multiple-choice answers, be re-tested on missed answers, or run a full quiz diagnostic routine. Students begin the program by choosing a drill on either noun vocabulary, verb vocabulary, phrase translation or verb conjugation. The computer randomly selects phrases and words. The student cannot predict what is coming next. Question types are either multiple-choice or fill-in-the-blank. The screen displays and continuously updates the percentage of correct

answers. Diagnostic results and records can be printed and saved. German II recognizes 800 German/English word combinations and 1950 verb conjugation forms. Everything else is basically the same.

PRESENTATION OF CONTENT

1. Miscellaneous Word Vocabulary Drill:

Upon choosing menu item C (Miscellaneous Word Vocabulary Drill), for example, the user quickly observes that the program reduces the ambiguity of the stimulus word by designating its grammatical category (e.g., noun, verb). For instance, on the screen the student is asked to translate the word SUIT, which appears together with the label "Noun." This identification helps to avoid confusion between the noun suit and the homographic verb. Here are examples as they appear on the screen:

```
1. SUIT
     NOUN     1. UNGLUECK   2. ANZUG
              3. SCHUH      4. JAHR

2. CLOSE
     VERB     1. FISCH      2. FEIND
              3. SCHLIESSEN 4. PURPUR

3. FLAT
     MISC     1. FLACH      2. TISCH
              3. BOOT       4. GENUG
```

Reservations:

The grammatical designation (noun, verb) is really useful. Unfortunately, it is not implemented consistently, since parts of speech other than nouns and verbs are grouped together under the general heading "MISC(ELLANEOUS)." This apparent lack of consistency is puzzling. Its pedagogical justification appears to be that it encourages students to analyze sentences by focusing on verbs and nouns first and then on "everything else." Perhaps, too, the intent was to focus on the vocabulary component in this drill, and not, to introduce considerations that might distract from it. Nontheless, I would have preferred consistent vocabulary identifications such as: Noun, Verb, Adjective, Adverb, Preposition, Conjunction.

1. Verb Conjugation Drill:

This verb drill has both appealing and annoying features. The format of presenting the principal parts of verbs is traditional, although the student is not asked for the "traditional" auxiliary verb when typing in the past participle. Consider the following example where the student's answer is to be

supplied on the dotted line:

1. SCHLIESSEN TO CLOSE/CONCLUDE

3rd Pers. Sing.Past	SCHLOSS _____
Past Part.	GESCHLOSSEN _____
3rd Pers. Sing.Pres.	SCHLIESST _____

2. SINGEN TO SING

3rd Pers. Sing.Past	SANG _____
Past Part.	GESUNGEN _____
3rd Pers. Sing.Pres.	SINGT _____

Reservations:

The verbs included in this drill are ordered alphabetically rather than to some linguistic or pedagogic design. For the so-called strong (or irregular) verbs, in which tense is marked by vowel gradation, a perhaps more helpful ordering would be in groups based on vowel change similarities. It has been my experience that irregular verbs are more easily learned if taught in such groups. As a matter of fact, the computer lends itself well to

calling attention to patterns of this kind. For example, groups could be arranged thus:

Pattern: ie--o--o

(Item)

Verb 1:	SCHLIESSEN		
	Present	Imperfect/ Simple Past	Past Participle
	SCHLIESST	SCHLOSS	HAT GESCHLOSSEN

(Item)

Verb 2:	FLIEHEN		
	FLIEHT	FLOH	IST GEFLOHEN

(Item)

Verb 3:	VERLIEREN		
	VERLIERT	VERLOR	HAT VERLOREN

Pattern: i--a--u

(Item)

Verb 4:	SINGEN		
	SINGT	SANG	HAT GESUNGEN

(Item)

Verb 5:	TRINKEN		
	TRINKT	TRANK	HAT GETRUNKEN

(Item)

Verb 6:	FINDEN		
	FINDET	FAND	HAT GEFUNDEN

3. Verb Vocabulary Drill:

The verb drill which tests the various tenses is good in concept. The student is asked to type in the forms as shown on the dotted line:

Perfect Tense

1. HALTEN		TO HOLD/STOP/KEEP
	ICH	HABE GEHALTEN___
	DU	HAST GEHALTEN___
	ER	HAT GEHALTEN____
	WIR	HABEN GEHALTEN__
	IHR	HABT GEHALTEN___
	SIE	HABEN GEHALTEN__

Reservations:

Such full tense verb conjugations provide excellent practice. But it can also become tedious

to type the same verb with minor variations six times, verb after verb. This is particularly the case, of course, if the student is a hunt-and-peck typist. The exercise should be shortened by doing, say, <u>some</u> items in a given conjugation, but not always all of them. Grouping, aside from keeping similar vowel change patterns together, could teach singular and plural formation at the same time as drilling tense patterns. Possible variations might include both shortening and grouping of verbs, for example:

(Item)

Verb 1: HALTEN TO HOLD/STOP/KEEP

ich ---------- du ----------

wir ---------- ihr ----------

(Item)

Verb 2: FANGEN TO CATCH

er ---------- sie (Sing.) ----------

sie (Pl.)

SUPPORT MATERIAL:

A type-written alphabetized list of all German/English vocabulary, verb conjugations and phrases which appear in the program, together with a pronunciation guide, is supplied with this particular program diskette. Some of the programs received had this included, others did not. Additional copies of this vocabulary list can be ordered for $3.00. This material is useful to instructors wishing to coordinate the programs with classwork or direct students with particular problems to the appropriate component programs.

Reservations:

On the other hand, the instruction booklet could have been more clearly written. It isn't very good at explaining operating instructions, option selections and program "hang up" remedies. Moreover, the graphic appeal of the stapled pages of the instruction booklet could be improved. A user is not only addressed by the aesthetic and professional make-up of the support literature but also dependent on the instructions being stated clearly and simply.

PRESENTATION

Content:

The part of the program, vocabulary item analysis, proves the weakest because it frustrates the students the most. The weaknesses are of particular interest to language teachers who struggle to restrict to specific applications and, at the same time, carefully expand foreign vocabulary. For most learners the seemingly endless hoard of new vocabulary to be learned is intimidating at first. For this reason, vocabulary learning must be carefully controlled, frequently reinforced through varied application and gradually developed. When encountering a program organized as this is, students will feel disconcerted, because the program constantly reminds them of what they do not know.[1] This weakness stems from a failure to plan which items should be introduced, and when to introduce them. The flaw is common in quickly prepared random drill programs. Because of the importance of this part of language learning, and because the deficiencies of this aspect of this program exemplify some of the pitfals to be avoided, I would like to examine these deficiencies in some

detail here. They may be grouped into six categories. The first two weaknesses concern problems caused by lack of flexibility in the programming.

1. Question Item Ambiguous:

For example, if the English word SHEET appears on the screen, the user does not know what kind of sheet is meant. The ambiguity arises because there is more than one German term possible for the English word given. For SHEET the program wants the bed sheet, DAS BETTLAKEN, but not the sheet of paper, DER BOGEN PAPIER; for NUMBER, the numerical figure, DIE ZAHL is preferred over DIE NUMMER or DIE ZIFFER; for MARRIAGE, matrimony, DIE EHE, and not wedding, DIE HEIRAT; for BAG, DER BEUTEL, but not DIE TASCHE. A more complex ambiguity arises with a word like RIGHT. The answer RECHT is the only acceptable one. The word RECHT, however, without gender, is not used as such; in conjunction with HABEN the word means RECHT HABEN, "to be right;" in conjunction with article DAS, the word means DAS RECHT, "the right, the law;" used adverbially with the suffic s, the word becomes RECHTS, "right"--as opposed to "left." In other words, all possibilities prompted by the

word RIGHT are rejected. Particularly difficult in this regard are prepositions, especially when they are given out of context. When, for instance, a question item such as IN, AN or BEI appears, the plausible answers are too numerous because of the many meanings a preposition can have in different contexts. Prepositions in context are difficult enough to learn--out of context, they are virtually impossible to guess correctly. It is important that the items chosen be precise either by providing a context or by supplying a list of possibilities where only one answer is looked for which is not present in the list of other alternative choices.

2. Answer Item Enigmatic:

A second confusion, closely related to the first, arises when the question is clear, but the answer choices offered by the program are questionable. For instance, when the program asks for the German equivalent of TO STOP and provides the following choices:

1. AUFHOEREN
2. ANTWORTEN
3. ABBESTELLEN
4. ANKOMMEN

it is difficult to choose between AUFHOEREN and ABBESTELLEN because both verbs mean "to stop" in

slightly different senses. I chose AUFHOEREN, only to find that the program's preference was ABBESTELLEN. Sometimes, however, no real option is provided. For example, when the program asks for a German equivalent of TO WORRY and furnishes as alternatives:

1. PLAGEN
2. MUESSEN
3. AUSRADIEREN
4. EMPFANGEN

the choice becomes extremely difficult. The answer expected by the program is PLAGEN, but it does not correspond well. Preferable correct answers would be: BEUNRUHIGEN, SICH AENGSTIGEN, SICH SORGEN.

3. Answer Item Archaic:

Also bewildering are answers which are heard only in certain regions of Germany or Austria and are not representative of "standard" German. Again, both options should appear, or perhaps use of such words should be restricted. The following examples may serve to illustrate problems of this kind in this program. The vocabulary item SHEET was accepted only as DAS BETTLAKEN and not also as DAS LEINTUCH; BRICK only as DER BACKSTEIN and not DER ZIEGEL; TURKEY only as DER TRUTHAHN and not DER PUTER; and TRASH CAN only as DER ABFALLEIMER and not

DER ASCHEIMER (or ASCHENEIMER).

5. Answer Items Inconsistent in Kind:

In other cases the program's rigidity is compounded by inconsistency because the responses required vary without cause. For words like FIRST and NONE the uninflected forms ERST and KEIN are accepted as correct, but not those with inflectional endings such as ERSTER, ERSTE, KEINER or KEINE. But later in the same program, endings are suddenly preferred. The word OTHER requires ANDERER (nominative singular masculine only), SECOND requires ZWEITER (nominative singular masculine only), NEXT requires NAECHSTEN (accusative singular masculine only). Answers without inflections, or with equally plausible feminine or neuter endings are rejected. Answering correctly in such cases becomes increasingly discouraging because of the inconsistency in the program's expectations. Clearly, adjective endings should not be assumed out of context unless specific instructions are given to the student.

6. Items Too Cognate Oriented/Too Easy:

There is occasional inconsistency in level of difficulty. Some routines are too easy. Students

can be challenged within reason but should not be given a false sense of accomplishment with frequent items such as these:

1. THE SOUP IS GOOD to be answered with
   1. DIE SUPPE IST GUT

2. WE HAVE A BOAT to be answered with
   2. WIR HABEN EIN BOOT

There should be a healthy and realistic mixture of "hard" and "easy" combinations. An even better approach would adjust the average level of difficulty on the basis of the student's performance.

COMPUTER TECHNIQUES

1. Feedback to Students:

   a. Diagnostic Results:

The diagnostic option allows the sudent to review incorrect answers. If, for instance, the original option was the verb conjugation drill, the diagnostic display will inform the student how many items of each person and tense were missed. If more than three of any person/tense were missed, an asterisk (*) is displayed beside the applicable person/tense, indicating that more practice is needed. Also displayed is the total number of verbs tested, the number answered correctly, and the

final percentage of correct answers. The diagnostic routine can be called at any time, either during the original option selection or during the re-test option. Such a provision can be motivating because a tally or a plot of the student's efforts can be kept and displayed to show the amount of improvement over time. Most students like to know that last time they missed only five out of ten items and this time only two.

1. Feedback to Students:

b. Re-test Option:

This option allows a student to be retested on any missed vocabulary or phrases. The program presentation is identical to the regular options except that no percentage of correct answers is displayed. Also, the program is not implemented to re-test verb conjugation errors.

Reservations:

The program merely provides the correct answer and lets the students deduce for themselves what the problem may have been, be it substantive or only typographical, which is a rather shoddy learning experience. This also leaves much of the potential

of the computer for interactive feedback untapped. Preferable would be coupling the re-test option with an option providing diagnosis and explanation of errors prior to re-testing.

1. Feedback to Students:

c. Print-Out Capability:

Choosing one of the print options will cause the program to generate selections for printing a multiple choice test. An entire test and test results are printed to be taken either on--or off-line. (See Atari version of this program which includes a sample of this type of test.) This aspect of the program is particularly valuable because it leaves the student with tangible results and thus fosters a sense of accomplishment at the end of a session. Teachers, too, may find the test printouts useful for administering quizzes. For the actual test, the program will input data from the disk and display a multiple choice for each quiz selection in the same manner as during normal option selections. Instead for the program prompting for an answer input, the user is asked to indicate by pressing "P" if the program should "print" (incor-

porate) the displayed choice into the test or "N" if a new selection is preferred or "X" if language format changes are desired. In other words, a user can accept or reject a given choice, which comes from the same data base of questions the menu options are made up of.

Reservations:

As nice as the print option is, it proved a real headache because when no printer is available, the program "hangs up" when this option selection is accidentally chosen. In such a case, a new start-up is the only remedy. True, the manual explicitly reminds the user that in order to accomplish Model III compatibility, recognition of the line printer ready status had to be suppressed. Furthermore, if a non-Radio Shack line printer that does not indicate the "Printer Ready" status is on line, the program will also "hang up" whether the printer is on or not. It was bad enough to know I couldn't print because I didn't have a printer but it was salt in the wound when my program interaction was frozen because the print option was selected accidentally. A message tc that effect or no response would seem a more

appropriate rejection rather than a "hang up." Perhaps the print option should include some prior check of printer status to avoid "hang up," whether the option is selected intentionally or by accident.

1. Feedback to Students:

   d. Timing of Feedback:

There is no limit on the amount of time a student may take to answer. The prompt keeps blinking patiently. There are, however, some discrepancies in the amount of time the answers remain on the screen. This limitation is especially noticeable during the second try or re-test option, as is apparent from the following summary of timings and situations:

SITUATION		TIME	RATING
First Try	Correct Answer	5 sec.	(O.K.)
Second Try/Re-test	Correct Vocab.	8 sec.	Too long
Second Try/Re-test	Correct Verbs	10/12 sec.	Too long
Second Try/Re-test	Correct Misc.Voc.	5 sec.	Too long
Second Try/Re-test	CORRECTED Error: (Verbs, Misc.Voc.)	5/6 sec.	(O.K.)

There is no problem with correct answer timing during the first try, but during the second try the correct versions stay on the screen a bit too long and only the corrections for errors are timed appropriately. My experience with drill programs leads me to conclude that a right answer needs to be displayed only briefly, while a correction needs to stay on the screen somewhat longer. Preferable, in my view, would be leaving the timing to the student by keeping the answer/correction on the screen until the student elects to move on. There are many programs that simply wait for the student to press the ENTER key before presenting the next item.

2. Typable Accent Marks:

Reservations:

The program has a very poor method for presenting diereses. Presumably the program was written for the TRS-80 Model I, whose character generator did not include these characters. Instead of the dieresis, the letter "E" is added to the vowel, e.g., "OE" for "Ö." In addition, there is no "ß" (the so called scharfes "s"). The substitution

used is "SS" which is an acceptable substitute. But in words involving more than one such substitution, the problem is compounded and some distracting spelling arises, like FUSSKNOECHEL for Fußknöchel. Since the main goals of the program concern grammar and vocabulary, this is a relatively small problem, but a limitation nevertheless. (See Appendix A. for other methods of dealing with this problem.)

3. Upper/Lower Case:

Reservations:

The handling of upper and lower case involves a similar limitation. All items are displayed in upper case letters, both the text given on the screen as well as the answers typed in by students. The distinction between upper and lower case is more important in German than in most languages, since nouns are differentiated from other parts of speech by being capitalized. Clearly, the use of all upper case letters simplified matters for the programmer, and perhaps also for the user who can concentrate on the substance with one less keyboard manipulation to worry about. But it does deviate from real world usage and may meet with objections

from some teachers and students.

4. Ease of Operation:

Loading is a four-step operation if done "manually."

Step 1: Turn system on, put disk in drive 0, and press RESET.

Step 2: Type "BASIC" and press ENTER.

Step 3: Answer "1" to "How many files?" if you have 32K memory. Press ENTER until you get the "READY" prompt.

Step 4: Type RUN"GERMAN" and press ENTER.

But these steps can easily be consolidated into a BUILD/DO command sequence for "Automatic Start-Up." Users need then only enter the date at the prompt (a requirement which can also be circumvented by a patch to the D.O.S.), press ENTER and the program performs all subsequent functions automatically.

Summary:

Overall, despite the limitations discussed, the Bartotillo programs for German I and German II have merit. By way of summary, I will reiterate in two columns the "Likes" and "Dislikes."[3]

LIKES	DISLIKES
1. Labeling parts of speech when translating miscellaneous vocabulary items.	1. Inconsistent labels of speech parts.
2. Verb conjugation traditional format.	2. Verb conjugation should require auxiliary verb when asking for past participle.
3. Verb drilling various tenses--good review item.	3. Verbs should not be in alphabetical order.
4. Type-written word list of German/English vocabulary in program.	4. Verbs should be grouped according to similarities, e.g., vowel changes.
5. Option for printing multiple-choice type test.	5. Verb tense drill awsome--six times the same tense and the same verb is too long.
6. Program still useful for review of vocabulary for very general needs.	6. Vocabulary drill items sometimes not clear, archaic, regional or inconsistently
7. Program still useful for drill work provided limitations are anticipated.	

8. Diagnostic option to review errors.
9. Record keeping of # of errors and # of attempts.
10. Ease of changing "manual" to automatic start-up of program.
11. Back-up disks (duplicates) to protect original are easily made and encouraged by producer.
12. Price of program is fair because it is useful to some extent over a longer period of time.

difficult.
7. Vocabulary drills not grouped by topics or other similarities.
8. Question/Answer format monotonous.
9. Lesson units too long.
10. Not enough interaction between student and computer.
11. Student has very little mobility within the program.
12. Poor feedback--no explanation of errors, no remediation.
13. Feedback inconsistently timed.
14. Entire program text written in upper case.
15. Program cannot be easily adapted to a variety of textbook(s) or curricula.
16. Support literature needs clarification and be of better quality.
17. Print option "hang up."

EVALUATION CRITERIA FOR REVIEW OF
FOREIGN LANGUAGE MICROCOMPUTER TEACHING PROGRAMS

RATING FORM for (Title of Program): Language Teacher Series: German I, II; TRS-80; Bartorillo

Rating:

Circle the item which best reflects your judgment:

0- Insufficient Knowledge
NA- Not Applicable
NAD- Not Applicable but Desirable
1- Poor
2- Fair
3- Good
4- Excellent

CONTENT

0 NA NAD 1 (2) 3 4	1. Content is accurate.
0 NA NAD 1 (2) 3 4	2. Content is appropriate to (stated or implied) instructional intent.
0 NA NAD 1 (2) 3 4	3. Level is appropriate for intended user.
0 NA NAD 1 (2) 3 4	4. Content presents a well-rounded view of contemporary usage.

SUPPORT MATERIAL

0 NA NAD 1 (2) 3 4	1. Instructor's guide is clear, comprehensive and useful.
0 NA (NAD) 1 2 3 4	2. Student's guide is clear, comprehensive and useful.

PRESENTATION

0 NA NAD (1) 2 3 4	1. Purpose of program(s) is clearly stated.
0 NA NAD (1) 2 3 4	2. Program(s) fulfill(s) the stated purpose.
0 NA NAD 1 (2) 3 4	3. Content organization and presentation are methodologically sound.
0 NA NAD 1 (2) 3 4	4. Subject matter is relevant to a variety of textbook(s).
0 NA NAD 1 (2) 3 4	5. Subject matter is adaptable to a variety of textbooks(s).
0 NA NAD (1) 2 3 4	6. Questions and expected answers are clear, not ambiguous.
0 NA NAD 1 (2) 3 4	7. Instructional quality of content: summary assessment.
0 NA NAD (1) 2 3 4	8. Individual lessons are of appropriate length.
0 NA (NAD) 1 2 3 4	9. Instructor can easily modify program.
0 (NA) NAD 1 2 3 4	10. Program with flexible content (e.g., authoring program) is powerful, flexible and suitable to a wide range of applications.

STIMULATION OF STUDENT INTEREST

0 NA NAD 1 2 3 (4)	1. Amount of information in each screen frame is appropriate.
0 NA NAD 1 (2) 3 4	2. Presentation of program is appealing.
0 NA NAD (1) 2 3 4	3. Student has mobility within program.
0 NA NAD (1) 2 3 4	4. Program employs principles of motivation.
0 NA NAD (1) 2 3 4	5. Program stimulates student creativity.

COMPUTER TECHNIQUES

0 NA NAD (1) 2 3 4	1. Capability of computer is exploited.
0 NA NAD 1 2 (3) 4	2. Use of computer is a suitable medium.
0 NA NAD 1 2 (3) 4	3. Instructor can easily operate program.
0 (NA) NAD 1 2 3 4	4. Instructor can easily operate program with record keeping feature.
0 NA (NAD) 1 2 3 4	5. Instructor can easily edit program without altering program code.
(0) NA NAD 1 2 3 4	6. Instructor can easily edit program by altering program code.
0 NA NAD 1 2 (3) 4	7. Student can easily operate program.
0 NA NAD (1) 2 3 4	8. Student can easily exit program without losing work done.
0 NA (NAD) 1 2 3 4	9. Student can easily go to on-screen help from any part and back to the same point of instruction.
0 NA (NAD) 1 2 3 4	10. Student can easily bypass on-screen instruction if desired.
0 NA NAD 1 2 3 (4)	11. Student can easily save lessons or parts of lessons on printout.
0 (NA) NAD 1 2 3 4	12. Student can easily save lessons or parts of lessons on disk.
0 NA NAD (1) 2 3 4	13. Feedback provides error analysis and correction/ explanation.
0 NA NAD (1) 2 3 4	14. Feedback differentiates substantive from mechanical mistakes (e.g., typos).

COMPUTER TECHNIQUES

0 NA NAD (1) 2 3 4	15. Feedback is adequately timed.
0 NA NAD (1) 2 3 4	16. Feedback frequency is appropriate.
0 NA NAD 1 2 3 (4)	17. Presentation of format is appropriate.
0 NA (NAD) 1 2 3 4	18. Appropriate use of color.
0 (NA) NAD 1 2 3 4	19. Appropriate use if sound.
0 NA NAD (1) 2 3 4	20. Appropriate use of graphics.
0 (NA) NAD 1 2 3 4	21. Appropriate use of animation.
0 NA NAD 1 2 3 (4)	22. Typable accent marks or alternatives are easy to manipulate.
0 NA NAD 1 (2) 3 4	23. Typable accent marks or alternatives are appropriate.
0 NA (NAD) 1 2 3 4	24. Upper and lower case differentiation is easy to manipulate.
0 NA NAD 1 2 (3) 4	25. Program is technically reliable.

PLEASE COMMENT FREELY ABOUT YOUR ASSESSMENT OF THIS MATERIAL:

1. Is it reasonable to use the computer to deliver this instruction?

   ✓ Yes ___ No ___ Not Sure

   How else could this instruction be delivered more effectively?

2. Do you recommend the use of this program?

   ___ Strongly recommend
   ___ Recommend
   ✓ Recommend subject to improvements
   ___ Do not recommend

   Why? Please, identify strengths and weaknesses.

3. What improvements do you recommend to the substance, program or documentation of this package, if any?

Notes

[1] One student expressed this frustration as follows: "I thought this system worked fairly well, except when you have to put in German words. If you know the answer but it is programmed for another word, it gets you very frustrated because you know that you're right, and it makes you doubt yourself." Laura Mayer, German 102, Syracuse University, spring 1983.

[2] For additional reviews and commentary for this program see: Gerald R. Culley and George W. Mulford, Foreign Language Teaching Programs for Microcomputers: A Volume of Reviews (Dover, Delaware: University of Delaware, 1983), pp. 10-12.

LANGUAGE TEACHER SERIES: GERMAN I

by Cindy and Andrew Bartorillo

OVERALL EVALUATION

	Poor	Fair	Good	Excellent
CONTENT		X		
SUPPORT MATERIAL		X		
PRESENTATION		X		
STIMULATION OF INTEREST			X	
COMPUTER TECHNIQUES			X	

LEVEL

High School
College

SYSTEM REQUIREMENTS

Atari 400/800
32K
One disk drive
Optional: joy stick
Optional: 80 column line printer

PRICE

$29.95 Each (both 59.00)

SOURCE

Program Store
P.O. Box 9582
Washington, D.C. 20016
Tel. (800) 424-2738

This is the Atari version of the first of the two Bartorillo packages previously discussed. The analysis of most features there applies to this version as well. But the Atari rendition deserves additional mention because of technical (not substantive) improvements over the TRS-80 version. The Atari program is in color and uses sound to signal correct or incorrect responses.

Program initialization, which takes a surprisingly long time, is in two steps: loading (50 seconds) and setting up the special character set (an additional 50 seconds). This special set of characters is easy to operate and is implemented by pressing the CTRL key plus the vowel that is to be umlauted. For instance, if one needs a lower case "u" with an Umlaut, pressing the CTRL key followed by the letter "U" produces "ü." (For a detailed listing of all codes see Appendix A.)

After the program is loaded, a map of Germany (with special emphasis on Berlin) appears on the screen with the title "GERMAN I." Each subsequent screen view comes in a different color which can be further changed through manual adjustments on the television screen. The program is designed so that inputs can be made either from the console keyboard or from a joystick. Multiple-choice answers and menu manipulation are, of course, the only possible joystick operation. A blinking cursor is displayed on the letter identifying one of the menu choices. This cursor can be moved to subsequent choices (letters) by moving the joystick or by pressing

the "up/down arrow" key, located on the right side of the keyboard console. Once the cursor is located over a desired selection, the FIRE button on the joystick controller or the RETURN key on the computer console executes the operation.

Duplicating the original diskette for a back-up copy is simple and encouraged by the producers of the package. The program includes a mode for hard copy with an appropriate printer. (See the print options for the TRS-80 discussion).
In order to communicate the test quality, I have included a sample of the test items which are available as printed hard copies. I have reproduced an exact replica of the six available testing options. All my samples except the verb conjugation drill present the first two items from English ⟶ German and the second two from German ⟶ English. The verb conjugation drill did not provide the choice to switch language formats:

I. VOCABULARY DRILL TEST: NOUN VOCABULARY
E ⟶ G

1. piano

(1) Handkoffer
(2) Mann
(3) Spulstein (Diacritical marks do not appear on printed copies.)
(4) Klavier

2. office
   (1) Feind
   (2) Butter
   (3) Kirche
   (4) Buro

G ⟶ E

3. Geld
   (1) nose
   (2) afternoon
   (3) hat
   (4) money

4. Verkauferin
   (1) salesgirl
   (2) beauty
   (3) pain
   (4) money

II. VOCABULARY DRILL TEST VERB VOCABULARY

E ⟶ G

1. show
   (1) denken
   (2) hassen
   (3) folgen
   (4) zeigen

2. wake up
   (1) horen
   (2) kaufen
   (3) aufwachen
   (4) beginnen

G ⟶ E

3. lesen
   (1) return
   (2) count
   (3) bathe
   (4) read

4. erreichen
   (1) inherit
   (2) reach
   (3) cry
   (4) bleed

III. VOCABULARY DRILL TEST MISC. WORD VOC.

E ⟶ G

1. stupid
   (1) fast
   (2) dumm
   (3) tausend
   (4) achtzehn

2. exactly
   (1) krank
   (2) nichts
   (3) genau
   (4) gelb

G ⟶ E

3. gelb
   (1) blue
   (2) today
   (3) five hundred
   (4) yellow

4. tatsachlich
   (1) actually
   (2) magic
   (3) black
   (4) beautiful

IV. VOCABULARY DRILL TEST RAND. SEL. VOC.

E ⟶ G

1. become
   (1) alt
   (2) werden
   (3) Westen
   (4) Herr

2. ear
   (1) Affe
   (2) Ohr
   (3) singen
   (4) unangenehm

G ⟶ E

3. senden
   (1) room
   (2) send
   (3) reach
   (4) queen

4. gut
   (1) good
   (2) why
   (3) chair
   (4) September

V. PHRASE DRILL TEST

E ⟶ G

1. I like to play tennis
   (1) Viertel vor acht
   (2) In wenigen Minuten
   (3) Sie versteht alles
   (4) Ich spiele gern Tennis

2. Merry Christmas
   (1) Bitte sitzen bleiben
   (2) Er reist gern
   (3) Frohliche Weinachten (sic)
   (4) Er hat Hunger

G ⟶ E

3. Die Suppe ist gut
   (1) It is eleven o'clock
   (2) The soup is good
   (3) Every week
   (4) Half a dozen

4. In wenigen Minuten
   (1) A large book
   (2) He is hungry
   (3) In broad daylight
   (4) In a few minutes

VI. VERB CONJUGATION DRILL TEST

1. bringen
   Ich
   Perfect
   (1) habe gebracht
   (2) brachte
   (3) bringe
   (4) hatte gebracht

2. sterben
   Ihr
   Pluperfect
   (1) starbt
   (2) werdet sterben
   (3) sterbt
   (4) wart gestorben

3. nennen
   Ich
   Imperfect
   (1) werde nennen
   (2) nenne
   (3) nannte
   (4) habe genannt

4. beginnen
   Ihr
   Present
   (1) begannt
   (2) beginnt
   (3) hattet begonnen
   (4) habt begonnen

Some teachers may not like the composition of this test at all. I, for me, question several matching alternatives, the absence of interpunctuation and diacritical marks in the phrase drill, and the form of the verb conjugation drill. To have a test copy will prove useful to students but I do recommend an ammended version. Comparing the TRS-80 program with the Atari

version, I must recommend the latter because I find the colors more appealing and motivating, the accessibility of German characters in upper and lower case from the keyboard preferable, in spite of the instructional weaknesses both programs share.

APFELDEUTSCH

OVERALL EVALUATION

	Poor	Fair	Good	Excellent
CONTENT				X
SUPPORT MATERIAL	NA			
PRESENTATION				X
STIMULATION OF INTEREST			X	
COMPUTER TECHNIQUES			X	

LEVEL

College

SYSTEM REQUIREMENTS

Apple II Plus
DOS 3.2 or 3.3
64K
One disk drive

PRICE

£99.00 (Pound Sterling)

SOURCE

WIDA Software
2 Nicholas Gardens
London W5, 5HY
Great Britain

(The following evaluation is necessarily tentative because it is based on limited acquaintance with only part of this package. It seemed preferable to include the evaluation, despite this qualification, because even limited familiarity provides some basis for fruitful comparison.)

Apfeldeutsch is a German self-study program based on the textbook: Grundkurs Deutsch.(distri-

buted by Verlag für Deutsch, Schillerstraße 5, D-8000 Munich 2, Germany). The entire teaching package comes in three main sections: two textbooks, six audio cassettes and nine disks of Apple programs. The disks are intended for self-assessment and fit into the general pattern: listen to cassette; listen again, this time following the passages in the textbooks; try the oral exercises; use the wordbook and read up on the grammar used; THEN use the appropriate disk; repeat until satisfied, then go on to the next lesson.

The computer-aided part of this program consists of nine diskettes with 111 programs, covering four general categories:

1. Ordinary fixed questions
2. Randomly generated questions
3. Animations
4. German version of "Hangman."

The instruction is designed both for self-teaching and for reinforcement and correction of material covered in class.

The program is guaranteed for one year but is planned to undergo extensive revisions because

the nine diskettes proved cumbersome. The new version will not be programmed in England but in the USA perhaps under the direction of James Pusack from the University of Iowa.[1]

The program starts with the producers' logo and the following menu:

Screen: HIT A LETTER TO CHOOSE AN EXERCISE:

A. TIME	H. SUBORDIN.
B. NUMERALS	I. DATES
C. VERB. PRES.	J. WEAK IMP (tense)
D. MODALVERB	K. ADJECT.
E. MONEY	L. PREPOS.
F. REFLEX	N. (sic) PRONOUN
G. PERFECT	

If the user selects category A, "Time," the computer prompts as follows:

Screen 1:

FIRST REVIEW THE DIFFERENT WAYS
OF EXPRESSING TIME

2.00 - ZWEI (UHR)
3.05 - FUENF (MINUTEN) NACH DREI
4.50 - ZEHN (MINUTEN) VOR FUENF
8.20 - ZWANZIG (MINUTEN) NACH ACHT
ZEHN (MINUTEN) VOR HALB NEUN
9.35 - FUENF (MINUTEN) NACH HALB ZEHN
11.15 - VIERTEL NACH ELF
VIERTEL ZWOELF
12.45 - VIERTEL VOR ZWOELF
DREIVIERTEL EINS
14.47 - VIERZEHNUHRSIEBENUNDVIERZIG
(TIMETABLE PATTERN)

Screen 2:

[MINUTEN] AND [UHR] ARE OPTIONAL.
IN THESE EXAMPLES THEY MAY BE
DROPPED WHERE THEY ARE HIGHLIGHTED:

```
04.00  ES IST VIER [UHR]
04.11  ES IST VIER UHR ELF [MINUTEN]
       ES IST ELF MINUTEN NACH VIER [UHR]
10.05  ES IST FUENF [MINUTEN] NACH ZEHN [UHR]
13.00  ES IST DREIZEHN UHR
       ES IST EIN UHR
       ES IST EINS
```

In comparison with other programs reviewed, Apfeldeutsch is markedly chatty. It is also well programmed to appear humanly responsive; the user senses that someone has taken pains to anticipate possible mistakes. The interactive character of the program is noticeable--to cite one illustration--when the program explains the optional use of [UHR] and [MINUTEN]:

Screen 1:

TO MAKE YOUR LIFE EASIER THIS
TEST USES ONLY MULTIPLES OF
FIVE, EXCEPT WHERE THE TIMETABLE
PATTERN IS REQUIRED.

Screen 2:

NOW I AM GOING TO TEST YOU
ON THE DIFFERENT PATTERNS.
TO AVOID CONFUSION, I'LL
TELL YOU WHICH PATTERN I
WANT YOU TO USE

WHEN THERE IS MORE THAN
ONE POSSIBLE ANSWER.

LET'S SEE AN EXAMPLE:

(Now the program forms a digital clock formed from stars.)

ANSWER USING THIS PATTERN:

_____ NACH _____

YOU ANSWER ZWANZIG NACH NEUN.
JUST GIVE THE USUAL FORM OF
THE TIME EXPRESSION IN EACH
CASE. DON'T TYPE MINUTEN
OR UHR WHEN THEY ARE NOT
NECESSARY.
NOW IT'S YOUR TURN.

If the student answers incorrectly, the feedback is friendly and personal:

Screen:

NO, THAT'S NOT WHAT I WANTED
YOU TO SAY. I WANTED . . . .

And then the desired answer is supplied.

If category E, "Money," is selected, the student is instructed on the currencies in the Federal Republic of Germany, the German Democratic Republic, Switzerland and Austria. Then the student goes shopping and is asked to express in words how much money has been spent:

Screen:

DU BIST IN DER DDR UND DU
GEHST EINKAUFEN.
DU GIBST 5 404.- M AUS.
WIE SAGT MAN DAS?

Student types:

FUENFTAUSENDVIERHUNDERTVIER MARK

In this exercise the program does not distinguish between content and mechanical errors like typos. Also, when an answer is wrong, only the corrected version appears, no more.

In category J, "Weak Imperfect" tense drill, the student practices the past tense in a conversational question-answer-type format. The conjugation pattern, together with the percentage of correct and incorrect responses, appears from time to time. This seemed to me good as a means of encouraging and motivating the student. Another very commendable aspect of this program is the

programmer's decision to keep the drills short (15 items maximum). Students are told after 15 attempts that they scored 15 out of 15 and are asked whether they wish another go, yes or no? Because the drills are relatively short, learners do not come to feel trapped or locked-in.

After choosing category L, "Prepositions," students can opt for or against instructions. They are also told that the exercise consists of 25 questions, another feature I liked. This drill again demonstrates clear and helpful feedback (despite the minor error of "two" for "drei"):

Screen 1:

IN/IN DER AM VOR UM MIT NACH
FUER DURCH OHNE AUS BEI ZU IM

Screen 2:

QUESTION:

WENN ICH _____ DEM FRUEHSTUECK
LOSFAHRE, KANN ICH _____ DREI
UHR NACHMITTAGS DA SEIN.

Student types:

NACH, UM

Screen 3:

TUT MIR LEID!
'BEFORE BREAKFAST' AND 'AT TWO' (sic)
IS WANTED.
NOCHMALS, BITTE!

Student types:

VOR, UM

The program's attention to helpful feedback is also apparent when, for example, students are told that they are spacing their words too far apart. This is the only program that I have seen that attempts to distinguish between this kind of error (extra spaces) and errors of content.

The drill in category K, "Adjective," tests the student's knowledge of the endings of articles like der, dies-, jed-, ein, mein, unser, and the endings of adjectives which follow them. The questions are selected randomly, so no two tests will be the same. The following text appears on the screen:

Screen:

JEN- GROSS- HAUS (ACCUSATIVE)

Students are asked to type in the missing endings one at a time. If the article should have a zero-ending, e.g., like "EIN" in the phrase "EIN ALTER WAGEN," then they should type a dash as their answer. Students are further instructed:

Screen 1:

YOU WILL BE GIVEN A SCORE AFTER
10 QUESTIONS, AND UNLESS YOU HAVE
GOT 10 RIGHT IN A ROW, I WILL
NOT LET YOU GO!

Screen 2:

WELL, ON SECOND THOUGHT THAT'S
A BIT HARD. IF YOU REALLY CAN'T
STAND THE HEAT ANY MORE, TYPE
S O S FOR EACH ENDING AND SEE
WHAT HAPPENS.

Screen 3:

DO YOU WANT A REMINDER OF THE
PATTERN? TYPE Y OR N

Screen 4:

TESTING SEQUENCE STARTS NOW.

1. SOLCH- INTERESSANT- BUECHERN
(DATIVE)

FIRST ENDING

Student types ? E

SECOND ENDING

Student types ? EN

Screen 5:

TUT MIR LEID, NUR H A L B RICHTIG!
DIE ANTWORT IST:

SOLCHEN INTERESSANTEN BUECHERN.

(DATIVE PLURAL)

DO YOU WANT A REMINDER OF THE PATTERN?
TYPE Y OR N

If the students choose "yes," they can view the entire declension pattern with all singular and plural forms. Other sample adjective items are, for instance, KEIN- KLEIN- KIND (DATIVE) which illustrate that the drill also includes some of the more challenging possibilities. I did not find it demotivating that students must do all 10 questions in a row in order to receive credit. This sort of "pressure" provided actually more of an incentive. Not <u>all</u> drills are seemingly so "immobile." In certain drills students are encouraged to move about.

If the "SOS" help routine is selected in the last drill, the screen displays this message:

Screen:

YOU HAVE DECIDED TO JUMP OFF
IN MIDSTREAM. COME BACK AND
TRY SOME MORE WHEN YOU ARE MORE
CONFIDENT OF THESE ENDINGS.
NOW TYPE "ESC" TO GET OUT, "M"
TO GO BACK TO MENU AND ANY KEY
TO REPEAT THIS TEST.

I had hoped for a little more help from the "SOS" routine than this peptalk, but even this example illustrates the program's flexibility of use.

On the whole, the authors seem to have experimented a good deal with varying formats. This has led to some inconsistencies, but also to the higher level of user interest and motivation that can be achieved by appropriate variety.

Although some revision is called for--and may be planned--Apfeldeutsch is, in my view, the best fixed-content program of its kind for self-instruction.

EVALUATION CRITERIA FOR REVIEW OF
FOREIGN LANGUAGE MICROCOMPUTER TEACHING PROGRAMS

RATING FORM for (Title of Program): APFELDEUTSCH

Rating:

Circle the item which best reflects your judgment:

0- Insufficient Knowledge
NA- Not Applicable
NAD- Not Applicable but Desirable
1- Poor
2- Fair
3- Good
4- Excellent

CONTENT

0 NA NAD 1 2 (3) 4	1. Content is accurate.
0 NA NAD 1 2 3 (4)	2. Content is appropriate to (stated or implied) instructional intent.
0 NA NAD 1 2 3 (4)	3. Level is appropriate for intended user.
0 NA NAD 1 2 3 (4)	4. Content presents a well-rounded view of contemporary usage.

SUPPORT MATERIAL

0 (NA) NAD 1 2 3 4	1. Instructor's guide is clear, comprehensive and useful.
0 (NA) NAD 1 2 3 4	2. Student's guide is clear, comprehensive and useful.

PRESENTATION

0 NA NAD 1 2 3 (4)	1. Purpose of program(s) is clearly stated.
0 NA NAD 1 2 3 (4)	2. Program(s) fulfill(s) the stated purpose.
0 NA NAD 1 2 3 (4)	3. Content organization and presentation are methodologically sound.
0 NA NAD 1 2 3 (4)	4. Subject matter is relevant to a variety of textbook(s).
0 NA NAD 1 2 3 (4)	5. Subject matter is adaptable to a variety of textbooks(s).
0 NA NAD 1 2 3 (4)	6. Questions and expected answers are clear, not ambiguous.
0 NA NAD 1 2 3 (4)	7. Instructional quality of content: summary assessment.
0 NA NAD 1 2 3 (4)	8. Individual lessons are of appropriate length.
0 (NA) NAD 1 2 3 4	9. Instructor can easily modify program.
0 (NA) NAD 1 2 3 4	10. Program with flexible content (e.g., authoring program) is powerful, flexible and suitable to a wide range of applications.

STIMULATION OF STUDENT INTEREST

0 NA NAD 1 2 3 (4)	1. Amount of information in each screen frame is appropriate.
0 NA NAD 1 2 (3) 4	2. Presentation of program is appealing.
0 NA NAD 1 2 (3) 4	3. Student has mobility within program.
0 NA NAD 1 2 (3) 4	4. Program employs principles of motivation.
0 NA NAD 1 2 3 (.)	5. Program stimulates student creativity.

COMPUTER TECHNIQUES

0 NA NAD 1 2 3 (4)	15. Feedback is adequately timed.
0 NA NAD 1 2 3 (4)	16. Feedback frequency is appropriate.
0 NA NAD 1 2 (3) 4	17. Presentation of format is appropriate.
0 NA (NAD) 1 2 3 4	18. Appropriate use of color.
0 NA NAD 1 2 (3) 4	19. Appropriate use if sound.
0 NA NAD 1 2 (3) 4	20. Appropriate use of graphics.
0 NA (NAD) 1 2 3 4	21. Appropriate use of animation.
0 NA NAD 1 2 3 (4)	22. Typable accent marks or alternatives are easy to manipulate.
0 NA NAD 1 2 (3) 4	23. Typable accent marks or alternatives are appropriate.
0 NA (NAD) 1 2 3 4	24. Upper and lower case differentiation is easy to manipulate.
0 NA NAD 1 2 3 (4)	25. Program is technically reliable.

COMPUTER TECHNIQUES

0 NA NAD 1 2 (3) 4	1. Capability of computer is exploited.
0 NA NAD 1 2 3 (4)	2. Use of computer is a suitable medium.
0 NA NAD 1 2 3 (4)	3. Instructor can easily operate program.
0 (NA) NAD 1 2 3 4	4. Instructor can easily operate program with record keeping feature.
0 (NA) NAD 1 2 3 4	5. Instructor can easily edit program without altering program code.
(0) NA NAD 1 2 3 4	6. Instructor can easily edit program by altering program code.
0 NA NAD 1 2 3 (4)	7. Student can easily operate program.
0 NA NAD 1 2 (3) 4	8. Student can easily exit program without losing work done.
0 NA NAD 1 2 3 (4)	9. Student can easily go to on-screen help from any part and back to the same point of instruction.
0 NA NAD 1 2 (3) 4	10. Student can easily bypass on-screen instruction if desired.
0 NA (NAD) 1 2 3 4	11. Student can easily save lessons or parts of lessons on printout.
0 (NA) NAD 1 2 3 4	12. Student can easily save lessons or parts of lessons on disk.
0 NA NAD 1 2 3 (4)	13. Feedback provides error analysis and correction/ explanation.
0 NA NAD 1 2 3 (4)	14. Feedback differentiates substantive from mechanical mistakes (e.g., typos).

PLEASE COMMENT FREELY ABOUT YOUR ASSESSMENT OF THIS MATERIAL:

1. Is it reasonable to use the computer to deliver this instruction?

   ✓ Yes ___ No ___ Not Sure

   How else could this instruction be delivered more effectively?

2. Do you recommend the use of this program?

   ___ Strongly recommend
   ✓ Recommend
   ___ Recommend subject to improvements
   ___ Do not recommend

   Why? Please, identify strengths and weaknesses.

3. What improvements do you recommend to the substance, program or documentation of this package, if any?

Notes

[1] Letter received from Verlag für Deutsch, 15 September 1982.

AUTHOR I

OVERALL EVALUATION

	Poor	Fair	Good	Excellent
CONTENT	NA			
SUPPORT MATERIAL				X
PRESENTATION				X
STIMULATION OF INTEREST				X
COMPUTER TECHNIQUES				X

LEVEL

Any level

SYSTEM REQUIREMENTS

TRS-80 Model III
32K or 48K
One disk drive
Printer desirable

LIST PRICE

$149.95

SOURCE

(small Computer Co. for)
Tandy-Radio Shack
Educational Division
Tandy Center
Fort Worth, TX 76102

The Author I system is a lesson utility in which instructors supply the content. The program is a screen-oriented authoring system, designed to enable any teacher, with or without programming experience, to create and administer microcomputer-based lessons in practically any subject. Two special character sets allow the instructor to write lessons in any language that uses the Western alphabet

(upper and lower case, and Greek, lower case only). Student input, however, is limited to standard ASCII keyboard characters, upper case only.

The system consists of four major modules:

1. The AUTHOR module is used to create lessons.
2. The TEACH module is used to present lessons.
3. The STUDENT module is used to set up and maintain score files.
4. The PRINT/VERIFY module is used to print a paper copy of the lesson.

The system can include text and graphics, questions and substantive feedback messages. Lessons can also include a glossary, hints keyed to specific responses, and branching within the lesson or to another lesson. The STUDENT module records student scores and timings for later review. The product includes a "walk-through" sample in the "Presentation" component of the package (available separately, list price $64.95). This introduces the instructor to the basic lesson format. Author I can be used for both tutorials and drills or for lessons combining both.

We have begun experimenting with this authoring system in a fourth-semester language class using two

standard texts, German in Review by Kimberly Sparks and Van Horn Vail (New York: Harcourt, Brace & World, 1967) and Blick und Einsicht by Wolff A. von Schmidt (New York: D. Van Nostrand Company, 1979).

Up to now the system has very successfully met the various demands we placed on it. Two characteristic strengths of the system should be mentioned here: It is easily adapted to different texts and teaching styles and it provides the instructor with almost unlimited flexibility in designing feedback messages to various anticipated student errors.

A sample application may help to illustrate the program's potential on these two counts. Imagine a bi-weekly test based on the kind of fill-in drills found in intermediate texts like German in Review. After the test has been given in the usual manner, the teacher makes a replica of the test with the authoring system, feeds all the students' actual mistakes into this "lesson," types in instructional responses appropriate to each of these mistakes, and then sends the students to the computer to go over their tests and receive the "individualized" responses the teacher has devised for the mistakes

actually made and any other likely ones that an experienced teacher might anticipate. The students are thus required to go over the material once again and correct their mistakes with the help of the instantaneous tutoring provided by the computer program. This work is of course done on the student's time with guided help from the "tutor," and classtime is saved for other activities.

Author I is highly recommended for situations requiring integration of CAI with classwork. I am particularly enthusiastic about the potential of this system--and other comparable authoring systems that may become available for other microcomputers--because utilities of this kind enable language teachers to do immediately what they do best, without having to learn and apply complicated code. If the experience in our department to date is indicative, designing the many kinds of lessons that Author I allows the teacher to create can be a very stimulating, satisfying and effective part of a language course.

EVALUATION CRITERIA FOR REVIEW OF
FOREIGN LANGUAGE MICROCOMPUTER TEACHING PROGRAMS

RATING FORM for (Title of Program):_____

AUTHOR I_____

Rating:

Circle the item which best reflects your judgment:

0- Insufficient Knowledge
NA- Not Applicable
NAD- Not Applicable but Desirable
1- Poor
2- Fair
3- Good
4- Excellent

CONTENT

0 (NA) NAD 1 2 3 4	1. Content is accurate.
0 (NA) NAD 1 2 3 4	2. Content is appropriate to (stated or implied) instructional intent.
0 (NA) NAD 1 2 3 4	3. Level is appropriate for intended user.
0 (NA) NAD 1 2 3 4	4. Content presents a well-rounded view of contemporary usage.

SUPPORT MATERIAL

0 NA NAD 1 2 3 (4)	1. Instructor's guide is clear, comprehensive and useful.
0 (NA) NAD 1 2 3 4	2. Student's guide is clear, comprehensive and useful.

PRESENTATION

0 NA NAD 1 2 3 (4)	1. Purpose of program(s) is clearly stated.
0 NA NAD 1 2 3 (4)	2. Program(s) fulfill(s) the stated purpose.
0 (NA) NAD 1 2 3 4	3. Content organization and presentation are methodologically sound.
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0 (NA) NAD 1 2 3 4	8. Individual lessons are of appropriate length.
0 NA NAD 1 2 3 (4)	9. Instructor can easily modify program.
0 NA NAD 1 2 3 (4)	10. Program with flexible content (e.g., authoring program) is powerful, flexible and suitable to a wide range of applications.

STIMULATION OF STUDENT INTEREST

0 NA NAD 1 2 3 (4)	1. Amount of information in each screen frame is appropriate.
0 NA NAD 1 2 3 (4)	2. Presentation of program is appealing.
0 NA NAD 1 2 3 (4)	3. Student has mobility within program.
0 NA NAD 1 2 3 (4)	4. Program employs principles of motivation.
0 NA NAD 1 2 3 (4)	5. Program stimulates student creativity.

COMPUTER TECHNIQUES

0 NA NAD 1 2 3 (4)	1. Capability of computer is exploited.
0 NA NAD 1 2 3 (4)	2. Use of computer is a suitable medium.
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PLEASE COMMENT FREELY ABOUT YOUR ASSESSMENT OF THIS MATERIAL:

1. Is it reasonable to use the computer to deliver this instruction?

   ✓ Yes ___ No ___ Not Sure

   How else could this instruction be delivered more effectively?

2. Do you recommend the use of this program?

   ✓ Strongly recommend
   ___ Recommend
   ___ Recommend subject to improvements
   ___ Do not recommend

   Why? Please, identify strengths and weaknesses.

3. What improvements do you recommend to the substance, program or documentation of this package, if any?

DASHER: A NATURAL LANGUAGE PROCESSOR

by James P. Pusack

OVERALL EVALUATION

	Poor	Fair	Good	Excellent
CONTENT				X
SUPPORT MATERIAL	NA			
PRESENTATION				X
STIMULATION OF INTEREST				X
COMPUTER TECHNIQUES			X	

LEVEL

College

SYSTEM REQUIREMENTS

Apple II
48K
DOS 3.2 or 3.3
One disk drive

PRICE:

? Announced for late 1983 distribution

SOURCE

Conduit
P.O. Box 388
Iowa City, IA 52244
Tel. (319) 353-5789

Dasher is an editor for creating foreign language drills with a wide variety of instructor options. The instructor can devise exercises for elementary and intermediate language students, including transformation drills, scrambled sentences, sentence construction, fill-in items, vocabulary review and translation exercises. The need for a predictable right answer does preclude using Dasher

for conversational exercises, complex translations and stylistic drills.

For a preliminary review of this product, I received a complimentary demonstration disk that allowed me to examine the student presentation section with a pre-programmed sample content. This announces Dasher as a two-part system:

Part 1:	Part 2:
Aid for language teachers to create exercises for language drills.	System to present exercises to students.

The user can select to work with the following languages: English, German, French and Spanish. After one has chosen, say, German, and while the computer is loading the appropriate data, a friendly message appears in the foreign language:

„Einen Augenblick, bitte."

then proceeds:

Screen: German Exercise A.

Instruction:
Change to the present perfect tense.
1. Ich lese das Buch

Student types:
Ich habe das Buch gelesen.

Screen:
Feedback:
Sie wissen alles!

There are the following help commands available if, for instance, students cannot answer the question:

/HELP/EXIT/SKIP/INDEX/BYE

Assuming this sample item causes trouble, the help provided looks like this:

Screen: Help!
Bitte sehr!

--- h--- --- ---- -el----.

The help consists of the number of blanks needed to answer, with some blanks filled-in to aid recall. Each screen furnishes the student with the help option, the exit option to go to another section of the index, the index option to re-read the listing inside this particular drill and finally the "BYE" option to get out of the program altogether.

The second part available for preview on the demo-disk produces the following message:

Screen: German Exercise B.

Instruction:
Rewrite the sentence, using the cued adjective to modify the noun.
1. Meine Schwester wohnt hier. (jung)

Student types:
Meine junge Schwester wohnt hier.

Everything after this point is identical to

demonstration exercise A.

Even this short preview disk reveals a list of commendable features in Dasher. It is an especially motivating device when, for instance, a student who has given an answer that is partially incorrect then sees the sentence appear on the screen with only the erroneous letters highlighted. For example:

Ein grosses Stück Kuchen kostet nicht viel.

The student has the opportunity to correct this orthographic error before being told what the nature of the error is, in this particular case "ß" is the required correction.

As a whole, I find the keyboard operations very easy and responsive. Umlaut-vowels and "ß" are accessed from the keyboard by pressing the CTRL key, followed by the appropriate vowel or "S." Upper case versions are obtained by depressing the ESC key, then the desired vowel.

Conduit also advocates a policy of encouraging instructors to share the program they create with Dasher. From what I have seen, I would recommend this authoring program highly.

EVALUATION CRITERIA FOR REVIEW OF
FOREIGN LANGUAGE MICROCOMPUTER TEACHING PROGRAMS

RATING FORM for (Title of Program): DASHER: A NATURAL LANGUAGE PROCESSOR

Rating:

Circle the item which best reflects your judgment:

0- Insufficient Knowledge
NA- Not Applicable
NAD- Not Applicable but Desirable
1- Poor
2- Fair
3- Good
4- Excellent

CONTENT

0 NA NAD 1 2 3 (4)	1. Content is accurate.
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STIMULATION OF STUDENT INTEREST

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0 NA NAD 1 2 (3) 4	3. Student has mobility within program.
0 NA NAD 1 2 3 (4)	4. Program employs principles of motivation.
0 NA NAD 1 2 (3) 4	5. Program stimulates student creativity.

COMPUTER TECHNIQUES

0 NA NAD 1 2 (3) 4	1. Capability of computer is exploited.
0 NA NAD 1 2 3 (4)	2. Use of computer is a suitable medium.
0 NA NAD 1 2 3 (4)	3. Instructor can easily operate program.
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COMPUTER TECHNIQUES

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0 NA NAD 1 2 (3) 4	25. Program is technically reliable.

PLEASE COMMENT FREELY ABOUT YOUR ASSESSMENT OF THIS MATERIAL:

1. Is it reasonable to use the computer to deliver this instruction?

   ✓ Yes ___ No ___ Not Sure

   How else could this instruction be delivered more effectively?

2. Do you recommend the use of this program?

   ___ Strongly recommend
   ✓ Recommend
   ___ Recommend subject to improvements
   ___ Do not recommend

   Why? Please, identify strengths and weaknesses.

3. What improvements do you recommend to the substance, program or documentation of this package, if any?

THE DEFINITE ARTICLE

"ZES COURSEWARE"

OVERALL EVALUATION

	Poor	Fair	Good	Excellent
CONTENT			X	
SUPPORT MATERIAL	X			
PRESENTATION			X	
STIMULATION OF INTEREST			X	
COMPUTER TECHNIQUES		X		

LEVEL

High School
College 101, 102

SYSTEM REQUIREMENTS

Apple II
48K
One disk drive

PRICE

$29.95

SOURCE

Avant-Garde Creations
P.O. Box 30160
Eugene, OR 97403
Tel. (503) 345-3043

CONTENT

As I found out the hard way, this program is a component developed by Avant-Garde and intended for use with "ZES Courseware" an authoring system known as "ZES Authoring System." "ZES Courseware" consists of individual modules each covering a specific topic. They were created utilizing the "ZES Authoring System" but have been specially

processed so they do not require the "ZES" system to run. The Definite Article module covers classification, analysis and grammar of the various German cases and their applications. This particular module is made up of a collection of graded questions. There are up to 30 "normal" questions covering a particular topic. The purpose of a normal question is to establish whether a student has an understanding of a concept associated with the topic covered in the module. In addition, there is a series of up to nine "revision" questions that give information the students need to answer the associated normal question. Revision questions follow immediately if a normal question is missed.

The overall instructional quality was difficult to assess since I was able to see the program only once. Because of an extremely poorly written manual, many hours of experimentation were invested merely trying to enter the program. The initial menu gives the following options:

1. Description of module
2. Student Interaction Program
3. Create/Amend Student Records
4. Obtain Student Reports

Option 1 gives a description of the module. Option 2 readies the system for student use. Option 3 lets the instructor create and amend student records. Option 4 informs the instructor of student performance.

The description of the module involves a single frame stating in one sentence that the scope of this lesson involves the definite article: classification, analysis and grammar. The student's interaction with the program progresses in the following manner:

Screen 1: TOPIC: THE DEFINITE ARTICLE
HI, THERE, LISA!

Screen 2: QUESTION 1:

CHOOSE THE CORRECT ANSWER TO THE FOLLOWING STATEMENT:

THE DEFINITE ARTICLE VARIES ACCORDING TO:

A.) CASE, GENDER, NUMBER
B.) CASE AND GENDER ONLY
C.) CASE AND NUMBER ONLY
D.) IS ALWAYS THE SAME

OPTIONS:

1. ENTER ANSWER
2. DATA PAGE: 1 (A definition page)

ENTER CHOICE: < >

If the wrong choice is entered, a message, something

like this with a loud beep sound appears:

Screen 3:

+ + + WRONG + + +

Following this wrong answer is the original definition of the particular topic. For instance,

Screen 4:

THE SUBJECT OF THE SENTENCE IS IN THE NOMINATIVE CASE. THE DIRECT OBJECT OF THE SENTENCE IS IN THE ACCUSATIVE CASE. THE INDIRECT OBJECT OF THE SENTENCE IS IN THE DATIVE CASE.

After this reminder, question #2 appears:

Screen 5: QUESTION 2:

WHEN A NOUN IS THE SUBJECT OF THE SENTENCE, IT IS IN THE _____ CASE. COMPLETE THE ABOVE SENTENCE.

OPTIONS:

1. ENTER ANSWER
2. DATA PAGE: 2 (Back to definition)

If the correct answer is provided, a varying message without any sound appears:

Screen:

+ + + FINE + + +

or: + + + FINE. KEEP IT UP + + +

or: + + + CORRECT. WELL DONE + + +

As the program progresses, the questions and answers are carefully woven around a seemingly simple topic. The carefully orchestrated manner in which this is accomplished struck me as particularly effective. It not only teaches the definite articles, their forms and meanings, but gradually engenders a feeling for related concepts. What started out seeming to be no more than a simple exercise on the definite article accomplishes something much more important: a sense of the importance and functions of the various cases and thus for a crucial feature of German syntax. The following examples may serve to illustrate this:

Screen 6: QUESTION 3:

WHAT IS THE SUBJECT AND THE INDIRECT OBJECT IN THE FOLLOWING SENTENCE:

DAS KIND SIEHT DEN WAGEN HINTER DEM BAUM.

A.) DEN WAGEN, DEM BAUM
B.) DAS KIND, DEM BAUM
C.) DAS KIND, DEN WAGEN
D.) NONE OF THE ABOVE

Assuming the wrong answer:
Program response:
+ + + WRONG + + +

Screen 7:

THE FOLLOWING TABLE SHOWS THE SINGULAR NOMINATIVE CASE FOR ALL GENDERS:

	MASC	FEM	NEUT
NOM	DER	DIE	DAS

Screen 8: QUESTION 4:

WHICH OF THE FOLLOWING IS/ARE IN THE NOMINATIVE CASE:

A.) DEN MANN
B.) DEM HAUS
C.) DER MANN
D.) DER FRAU

Assuming the correct answer:
Program response:

\+ + + CORRECT + + +
KEEP UP THE GOOD WORK

Screen 9:

DER DIE DAS (Now we look back at the basic table)

QUESTION 5:

WHAT IS THE DEFINITE ARTICLE FOR THE MASCULINE SINGULAR NOMINATIVE CASE?

Assuming the correct answer:
Program response:

\+ + + CORRECT + + +
WELL DONE

Screen 10:

THE DEFINITE ARTICLE FOR THE FEMININE SINGULAR NOMINATIVE IS THE SAME AS THE FEMININE SINGULAR ACCUSATIVE?

TRUE OR FALSE

Assuming the correct answer:
Program response:

\+ + + GOOD + + +

Screen 11:

WE HAVE EXTENDED OUR TABLE TO INCLUDE THE ACCUSATIVE CASE. NOTICE THAT IT IS ONLY IN THE MASCULINE THAT THE DEFINITE ARTICLE CHANGES ITS FORM FOR THESE TWO CASES. FOR FEMININE AND NEUTER, THE FORM DOES NOT CHANGE FROM NOMINATIVE TO ACCUSATIVE.

	MASC	FEM	NEUT
NOM	DER	DIE	DAS
ACC	DEN	DIE	DAS

Screen 12: <u>QUESTION 6</u>:

WHICH OF THE FOLLOWING IS/ARE IN THE ACCUSATIVE CASE?

A.) DEM HAUS
B.) DER FRAU
C.) DER HUND
D.) DEN WAGEN

<u>OPTIONS</u>:

1. ENTER ANSWER
2. DATA PAGE: 4
3. DATA PAGE: 5 (both back to definitions)

Assuming the correct answer:
Program response:

+ + + CORRECT + + +
VERY GOOD

Screen 13: QUESTION 7:

WHAT ARE THE CASES OF "KIND"
AND "WAGEN" IN THE FOLLOWING
SENTANCE? (sic)

DAS KIND SIEHT DAS (sic) WAGEN.

A.) NOM - ACC
B.) NOM - NOM
C.) ACC - DAT
D.) NOM - ACC

OPTIONS:

1. ENTER ANSWER
2. HINT

I choose "HINT:"
Program response:

WHICH IS THE SUBJECT AND WHICH
IS THE OBJECT?

Assuming the correct answer:
Program response:

+ + + CORRECT + + +
EXCELLENT

Screen 14:

THE PREPOSITION "IN" TAKES THE
DATIVE WITH VERBS INDICATING
A STATE OF REST.

QUESTION 8:

IF THE FOLLOWING SENTENCE IS TRANSLATED INTO GERMAN, WHAT ARE THE DEFINITE ARTICLES OF THE TWO NOUNS?

THE CHILD WAITS FOR THE WOMAN.

A.) DAS, DER
B.) DAS, DEN
C.) DER, DIE
D.) DAS, DIE

Assuming the correct answer:
Program response:
+ + + CORRECT + + +
A FINE EFFORT

This sample excerpt should suffice to suggest the program's merit despite the two spelling errors seen on screen 13. The interaction between program and student is intense and effective in instilling concepts that are among the more difficult to learn for many students.

It seemed to me a natural step to proceed to options 3 and 4 on the menu: 3 -- Create/Amend Student Records, 4 -- Obtain Student Reports. But this is precisely what I should not have done. The manual does not warn the user of the danger of such a step. If options 3 and/or 4 have been

attempted, then options 1 -- Description of module and 2 -- Student Interaction Program will be erased. This was a time-consuming and frustrating problem--one caused in part by the fact that the original disk could not be backed up, in part by the inadequacies of the documentation and in part by lack of clarity in menu about the uses (and dangers) of choosing steps 3 and 4. After returning the disk to the vendor, Avant-Garde, I received a letter (some 4 weeks later) with the following information:

> I studied your letter and the courseware booklet and I think I have learned the cause of your problem with the Definite Article of the German Language. The "Call Tutor" prompts [options 3 and 4] are only for people using the "ZES Authoring System." If you typed the lines in step 2 at the top of page 5 in the booklet,[booklet has no pagination]you have deleted the Create/Amend Student Records and Obtain Student Reports portions of the program. If you have deleted these portions of the program, you can either get a replacement disk for $5.00 or purchase the "ZES Authoring System" for $250.00.[1]

As an extra note I would like to mention that none of the program's options are copiable, and the disk does not accept a write-protect sticker,

otherwise interaction with the program is not possible. Perhaps this package should not be sold with the potentially suicidal options 3 and 4--or rewritten to guard against killing options 1 and 2. But clearly the documentation needs to be revised to provide information on this point.

SUMMARY

Altogether, I can see effective applications of this program. The careful explanations and help routines (returning to original definition or getting further explanations), provide constructive interaction and promote excellent results from what is, after all, a modest little program.

EVALUATION CRITERIA FOR REVIEW OF
FOREIGN LANGUAGE MICROCOMPUTER TEACHING PROGRAMS

RATING FORM for (Title of Program): _____
THE DEFINITE ARTICLE

Rating:

Circle the item which best reflects your judgment:

0- Insufficient Knowledge
NA- Not Applicable
NAD- Not Applicable but Desirable
1- Poor
2- Fair
3- Good
4- Excellent

CONTENT

0 NA NAD 1 (2) 3 4	1. Content is accurate.
0 NA NAD 1 2 3 (4)	2. Content is appropriate to (stated or implied) instructional intent.
0 NA NAD 1 2 3 (4)	3. Level is appropriate for intended user.
0 NA NAD 1 2 3 (4)	4. Content presents a well-rounded view of contemporary usage.

SUPPORT MATERIAL

0 NA NAD (1) 2 3 4	1. Instructor's guide is clear, comprehensive and useful.
0 NA (NAD) 1 2 3 4	2. Student's guide is clear, comprehensive and useful.

PRESENTATION

0 NA NAD (1) 2 3 4	1. Purpose of program(s) is clearly stated.
0 NA NAD (1) 2 3 4	2. Program(s) fulfill(s) the stated purpose.
0 NA NAD 1 2 3 (4)	3. Content organization and presentation are methodologically sound.
0 NA NAD 1 2 3 (4)	4. Subject matter is relevant to a variety of textbook(s).
0 NA NAD 1 2 3 (4)	5. Subject matter is adaptable to a variety of textbooks(s).
0 NA NAD 1 2 3 (4)	6. Questions and expected answers are clear, not ambiguous.
0 NA NAD 1 2 3 (4)	7. Instructional quality of content: summary assessment.
0 NA NAD 1 2 3 (4)	8. Individual lessons are of appropriate length.
0 NA NAD (1) 2 3 4	9. Instructor can easily modify program.
(0) NA NAD 1 2 3 4	10. Program with flexible content (e.g., authoring program) is powerful, flexible and suitable to a wide range of applications.

STIMULATION OF STUDENT INTEREST

0 NA NAD 1 2 3 (4)	1. Amount of information in each screen frame is appropriate.
0 NA NAD 1 2 (3) 4	2. Presentation of program is appealing.
0 NA NAD 1 2 (3) 4	3. Student has mobility within program.
0 NA NAD 1 2 (3) 4	4. Program employs principles of motivation.
0 NA NAD 1 2 (3) 4	5. Program stimulates student creativity.

COMPUTER TECHNIQUES

0 NA NAD 1 2 (3) 4	1. Capability of computer is exploited.
0 NA NAD 1 2 3 (4)	2. Use of computer is a suitable medium.
0 NA NAD (1) 2 3 4	3. Instructor can easily operate program.
0 NA NAD (1) 2 3 4	4. Instructor can easily operate program with record keeping feature.
0 NA NAD (1) 2 3 4	5. Instructor can easily edit program without altering program code.
(0) NA NAD 1 2 3 4	6. Instructor can easily edit program by altering program code.
0 NA NAD (1) 2 3 4	7. Student can easily operate program.
0 NA NAD (1) 2 3 4	8. Student can easily exit program without losing work done.
0 NA NAD 1 2 3 (4)	9. Student can easily go to on-screen help from any part and back to the same point of instruction.
0 NA NAD 1 2 3 (4)	10. Student can easily bypass on-screen instruction if desired.
0 NA (NAD) 1 2 3 4	11. Student can easily save lessons or parts of lessons on printout.
0 (NA) NAD 1 2 3 4	12. Student can easily save lessons or parts of lessons on disk.
0 NA NAD 1 2 (3) 4	13. Feedback provides error analysis and correction/ explanation.
0 NA NAD (1) 2 3 4	14. Feedback differentiates substantive from mechanical mistakes (e.g., typos).

COMPUTER TECHNIQUES

0 NA NAD 1 2 3 (4)	15. Feedback is adequately timed.
0 NA NAD 1 2 3 (4)	16. Feedback frequency is appropriate.
0 NA NAD 1 2 3 (4)	17. Presentation of format is appropriate.
0 (NA) NAD 1 2 3 4	18. Appropriate use of color.
0 NA NAD 1 2 (3) 4	19. Appropriate use if sound.
0 NA NAD 1 2 (3) 4	20. Appropriate use of graphics.
0 NA (NAD) 1 2 3 4	21. Appropriate use of animation.
0 (NA) NAD 1 2 3 4	22. Typable accent marks or alternatives are easy to manipulate.
0 NA NAD (1) 2 3 4	23. Typable accent marks or alternatives are appropriate.
0 (NA) NAD 1 2 3 4	24. Upper and lower case differentiation is easy to manipulate.
0 NA NAD (1) 2 3 4	25. Program is technically reliable.

PLEASE COMMENT FREELY ABOUT YOUR ASSESSMENT OF THIS MATERIAL:

1. Is it reasonable to use the computer to deliver this instruction?

   ✓ Yes ___ No ___ Not Sure

   How else could this instruction be delivered more effectively?

2. Do you recommend the use of this program?

   ___ Strongly recommend
   ___ Recommend
   ✓ Recommend subject to improvements
   ___ Do not recommend

   Why? Please, identify strengths and weaknesses.

3. What improvements do you recommend to the substance, program or documentation of this package, if any?

Notes

[1] Letter received from Avant-Garde, 21 March 1983.

FLASHCARD SYSTEM 1, 2

OVERALL EVALUATION

	Poor	Fair	Good	Excellent
CONTENT	NA			
SUPPORT MATERIAL		X		
PRESENTATION			X	
STIMULATION OF INTEREST			X	
COMPUTER TECHNIQUES				

LEVEL

Any level

SYSTEM REQUIREMENTS

TRS-80 Models I, III
32K
One disk drive

PRICE

$50.00

SOURCE

NTS Software
211 S. Orange Ave.
Rialto, CA 92376
Tel. (714) 875-2968

Copyright 1979 by
Nancy T. Sandler

The Flashcard System is an authoring tool that allows the teacher to set up questions, vocabulary lists and the like in any subject. The system is designed to handle files of questions and answers up to the machine's memory limits. The default total is fifty items; this can easily be modified to more or less by altering the variable in one value in one line of the BASIC code.

The two modules that make up the disk-based version I tested are:

A. The "FLASHCD1/DSK": a data building program which the teacher uses to create files of questions and answers.

B. The "FLASHCD2/DSK": a drill program which reads the data file, presents each question to the student and evaluates the answers.

The program currently tells students they have a "good" score if 80% of the answers are correct and "excellent" if the score is 90%. These values too are easily modified.

This program is excellent for true-false exercises and single-word answer drills. The drills can be tailored to any text, to any level and to most conceivable purposes for which normal flashcards would be appropriate. The program's support materials are adequate (some of the instructions are included as REM statements with code), but setting up a drill takes a bit of experimentation at first. Within the parameters described, the program is very flexible. The instructor can make a drill as long or as short,

as challenging or easy as desired. I have a couple minor reservations about this product. First, it is a bit expensive, both for what it does for the amount of code involved (slightly under 200 lines of BASIC in all). Second, the original disk was defective and had to be returned to NTS Software for replacement. (Note: Nancy Sandler, who authored Flashcard, told us that an enhanced version would be available in late 1983.)

EVALUATION CRITERIA FOR REVIEW OF
FOREIGN LANGUAGE MICROCOMPUTER TEACHING PROGRAMS

RATING FORM for (Title of Program): _____
FLASHCARD SYSTEM 1, 2

Rating:

Circle the item which best reflects your judgment:

0- Insufficient Knowledge
NA- Not Applicable
NAD- Not Applicable but Desirable
1- Poor
2- Fair
3- Good
4- Excellent

CONTENT

0 (NA) NAD 1 2 3 4	1. Content is accurate.
0 (NA) NAD 1 2 3 4	2. Content is appropriate to (stated or implied) instructional intent.
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SUPPORT MATERIAL

0 NA NAD 1 (2) 3 4	1. Instructor's guide is clear, comprehensive and useful.
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PRESENTATION

0 NA NAD 1 2 (3) 4	1. Purpose of program(s) is clearly stated.
0 NA NAD 1 2 (3) 4	2. Program(s) fulfill(s) the stated purpose.
0 (NA) NAD 1 2 3 4	3. Content organization and presentation are methodologically sound.
0 (NA) NAD 1 2 3 4	4. Subject matter is relevant to a variety of textbook(s).
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0 NA NAD 1 2 (3) 4	9. Instructor can easily modify program.
0 NA NAD 1 2 (3) 4	10. Program with flexible content (e.g., authoring program) is powerful, flexible and suitable to a wide range of applications.

STIMULATION OF STUDENT INTEREST

0 NA NAD 1 2 3 (4)	1. Amount of information in each screen frame is appropriate.
0 NA NAD 1 2 (3) 4	2. Presentation of program is appealing.
0 NA NAD 1 2 (3) 4	3. Student has mobility within program.
0 NA NAD 1 2 (3) 4	4. Program employs principles of motivation.
0 NA NAD 1 2 (3) 4	5. Program stimulates student creativity.

COMPUTER TECHNIQUES

0 NA NAD 1 (2) 3 4	1. Capability of computer is exploited.
0 NA NAD 1 2 3 (4)	2. Use of computer is a suitable medium.
0 NA NAD 1 (2) 3 4	3. Instructor can easily operate program.
0 NA NAD 1 (2) 3 4	4. Instructor can easily operate program with record keeping feature.
0 NA NAD 1 2 (3) 4	5. Instructor can easily edit program without altering program code.
(0) NA NAD 1 2 3 4	6. Instructor can easily edit program by altering program code.
0 NA NAD 1 2 3 (4)	7. Student can easily operate program.
0 NA NAD (1) 2 3 4	8. Student can easily exit program without losing work done.
0 NA NAD (1) 2 3 4	9. Student can easily go to on-screen help from any part and back to the same point of instruction.
0 NA NAD (1) 2 3 4	10. Student can easily bypass on-screen instruction if desired.
0 NA (NAD) 1 2 3 4	11. Student can easily save lessons or parts of lessons on printout.
0 (NA) NAD 1 2 3 4	12. Student can easily save lessons or parts of lessons on disk.
0 NA NAD 1 (2) 3 4	13. Feedback provides error analysis and correction/ explanation.
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COMPUTER TECHNIQUES

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0 NA NAD 1 2 (3) 4	16. Feedback frequency is appropriate.
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0 (NA) NAD 1 2 3 4	24. Upper and lower case differentiation is easy to manipulate.
0 NA NAD (1) 2 3 4	25. Program is technically reliable.

PLEASE COMMENT FREELY ABOUT YOUR ASSESSMENT OF THIS MATERIAL:

1. Is it reasonable to use the computer to deliver this instruction?

   ✓ Yes ___ No ___ Not Sure

   How else could this instruction be delivered more effectively?

2. Do you recommend the use of this program?

   ___ Strongly recommend
   ___ Recommend
   ✓ Recommend subject to improvements
   ___ Do not recommend

   Why? Please, identify strengths and weaknesses.

3. What improvements do you recommend to the substance, program or documentation of this package, if any?

GERMAN PACKAGE I, II, III

OVERALL EVALUATION

	Poor	Fair	Good	Excellent
CONTENT		X		
SUPPORT MATERIAL	NA			
PRESENTATION		X		
STIMULATION OF INTEREST		X		
COMPUTER TECHNIQUES		X		

LEVEL

College

SYSTEM REQUIREMENTS

TRS-80 Models I, III
32K
One disk drive

PRICE

$24.95 Each (All three $74.85)

SOURCE

Micro-Learningware
Box 2134
N. Mankato, MN 5600
Tel. (507) 625-2205

CONTENT

The three sets of programs, each on a separate disk, are menu driven. The user simply selects the desired options. Here is what is available among the 17 programs:

GERMAN PACKAGE I: Sein and Haben; Nouns; Adjectives; Comparative and Superlative of Adjectives; Basic Verbs; Strong Verbs.

GERMAN PACKAGE II: Adverbs and Conjunctions; Personal Pronouns; Possessive Pronouns; Reflexive Pronouns; Relative Pronouns; Separable Prefix with Strong Verb Parts.

GERMAN PACKAGE III: Modal Verbs; Separable Prefix/ Dative Object/and Reflexive Verbs; Prepositions; Subordinating and Coordinating Conjunctions; Strong and Weak Adjective Endings.

SUPPORT MATERIAL

No manual or word list is available for this self-contained program. Operating instructions are built-in.

STIMULATION OF STUDENT INTEREST

1. Presentation:

I observed a student who responded very positively to the format and interaction provided in the modal auxiliary drill. It looked like this:

Screen:	THE FELLOW IS TO WHISTLE	
Question:	ARTICLE AND NOUN?	
Student types:	DER KERL	O.K. (computer response)
Question:	MODAL?	
Student types:	MU@	O.K. (@=ß)
Question:	INFINITIVE?	
Student types:	PFEIFEN	
Question:	THE FELLOW IS TO WHISTLE	
Student types:	DER KERL MU@ PFEIFEN	
Question:	COMPARE —— TO EXPRESS A FUTURE POSSIBILITY	
Student types:	VIELLEICHT WIRD ER NICHT PFEIFEN	

I too find the gradual immersion into the modal verb drill effective and challenging.

2. Mobility:

After the students are well into the program, they are told with a very brief (two second) message that they may return to the menu by hitting the * (asterisk) key at any prompt. Information of this kind needs to stay on the screen long enough to be comprehended, the duration perhaps best left to the user's discretion. In fact, the entire program needs clearer descriptions on how to operate each entry, how to exit and how to achieve umlauts and ß. Only after repeated usage and largely through

experimentation are those obstacles overcome. Until then, the frustration level tends to be high stemming from a feeling of helplessness.

The format of the exercises is by design repetitious, hence, uninteresting. This shortcoming is compounded by the fact that students cannot choose to skip a lesson they feel they do not need; they must run through the entire file in the specified order. For instance, the data statements containing the strong verbs are alphabetized, and if students wish to practice these verbs beginning with the letter "S," all the previous ones, "A-R" have to be completed before they reach their desired exercise (an alternate choice is random order). In other words, it is impossible for the student to choose to do only certain exercises within a particular section. This lack of mobility tends to be de-motivating to some students. I can imagine, if students wish to practice, for instance, certain verbs they are having trouble with, they may wish to focus only on them and choose on hand of the beginning letter of these verbs in hopes to find them. Another reason for quick location of desired

verbs may be in the case that students' drill work on a certain day brought them, say, up to the letter "S." They could not continue from that point at a later time. They must do all drills again from the beginning. If an alphabetized ordering has been established, mobility to commence work at any alphabetical point may be helpful to some students. In randomized arrangements, of course, this aspect is not that pressing.

Additionally discouraging to some students are the restrictions on movement within a program. The programs are relatively small but large enough to make mobility desirable. Students cannot exit the program without losing their work done especially when wishing to return to previous vocabulary items. Students can only get out but not back.

PRESENTATION

Content Quality:

A modest attempt has been made to deal with limitations involving clarity of word choice which I will discuss in some detail later. For instance, when the word SEE is to be translated and the version preferred turns out to be DER SEE, "the lake," the item immediately following is the other SEE, DIE SEE, "the sea." In this way the student's attention is called to both words which, though identically spelled, are distinguishable by gender. Unfortunately this mild attempt is limited to homographs and thus is inadequate to the larger challenges posed by synonymy and related ambiguities.

Reservations:

This drill and practice program useful for reviewing German grammar in general, is hampered by several limitations. A great deal of inflexibility is encountered with the choice of vocabulary items. This inflexibility is the weakest part of the package and restricts the usefulness of the programs. The programs' rigidity led a reviewer to this assessment:

> I seriously doubt that this program was devised by a German teacher. It appears that a programmer or programmers were given lists of German nouns, pronouns, verbs, etc., and they developed very dry, lifeless grammar drills . . . . This program is no more than a series of glossaries to which the student must guess the gloss on the first try. If this is not done, then the program automatically and swiftly gives the correct answer. [1]

First of all, limitations dealing with obsolete irregular verbs (e.g., zeihen) as were encountered in Bartorillo's Language Teacher Series weaken the quality of the content. Masculine nouns are required when prompted to render, for instance, answers for the American (DER AMERIKANER) or the German (DER DEUTSCHE). Other noun limitations are encountered when translating German to English words like BANK where the preferred answer is "THE BENCH" and not "THE BANK," LEITER preferred answer DER: "THE LEADER" but not DIE: "THE LADDER," and so forth. The problem is especially acute with adjectives and verbs. An adjective such as SLIGHT is only accepted with GERING and not KAUM, QUIET only with LEISE and not RUHIG, HONEST only with BRAV and not EHRLICH. For a verb such as TO REPLY the program accepts ERWIDERN, but not BEANTWORTEN; for TO MEET only

BEGEGNEN and not TREFFEN. This list could be extended greatly, but these few items should suffice to illustrate the limiting nature of the vocabulary choices, limitations that are unsettling to learners who have learned synonymous expressions for the items in question and find themselves locked into a system that accepts only exact answer matches. Because of this fundamental shortcoming, this program reduces the computer to little more than an electronic flashcard turner.

COMPUTER TECHNIQUES

1. Ease of Operation:

Loading is a four-step operation if done "manually" but can easily be converted to "Automatic Start-Up." (See Bartorillo's Language Teacher Series).

2. Feedback:

The lack of appropriate feedback constitutes a genuine drawback. Since an exact answer match is required at all times, reinforcement for correct answers is inconsistent. For certain drills the feedback is displayed without explanation and briefly. The

student typically has no control over how long the correct answer message remains on the screen. These average about two seconds. For some drills, however, such as the Comparative Adjective, the program does wait long enough for the student to study and comprehend the correction. As a matter of fact, in this particular drill, the corrected version appears together with the error and stays on the screen until the student elects to proceed.

There seems to be inconsistency not only on the timing of feedback but also on the option to redo one's mistakes. Not all drills provide a re-drill on the items missed, but some do furnish this commendable feature. The Irregular Verb and Adjective drills, for instance, provide this option and, furthermore, a varied menu both of which promote a great deal of interaction with German grammar:

MENU #1

IRREGULAR VERBS

1. INFINITIVE ONLY--ENGLISH TO GERMAN
2. INFINITIVE ONLY--GERMAN TO ENGLISH
3. PRINCIPAL PARTS OF VERBS
4. REDO ALL VERBS
5. REDO ONLY THOSE MISSED
6. RESHUFFLE ORDER OF VERBS
7. END THE PROGRAM

MENU #2 (Appears after initial drill is completed)

ADJECTIVE ENDINGS

1. REDO ONLY THOSE MISSED
2. REDO ALL
3. EXCHANGE LANGUAGE FORMAT. REDO ONLY THOSE MISSED.
4. EXCHANGE LANGUAGE FORMAT. REDO ALL.
5. RE-SHUFFLE WORDS
6. END THE PROGRAM

The feedback to students is at times imbedded in the subsequent exercises. For instance, I observed a student who did not know the word for "THE GROUP" (DIE GRUPPE). Within eight minutes the same word appeared six more times. It was with great joy that the student typed in DIE GRUPPE each time. The student was visibly happy to show that something was learned and was given another, implied opportunity, to demonstrate the knowledge.

Feedback in the noun declension drill, however, appears to be more a reference glossary rather than an exercise drill. Here students have complete control over which nouns they wish to have declined. After entering their choices, the entire noun declension pattern appears on the screen. I would prefer that students decline the nouns themselves because this kind of tutorial provides almost no

opportunity for student interaction and thus fails to take advantage of the particular strengths of the computer.

The format of the regular noun drill should distinguish drill item letter size from feedback letter size. Both entries are printed in double size letters. A more effective method would be to use different letter size for the correction than for the error. I prefer the double size letters for the corrections so as to draw attention to it and away from the mistake. (See The Linguist which partly employs letter differentiation.)

3. Accent Marks:

I find the design of the accent mark substitution not especially satisfying. The keyboard substitution for the so called "scharfes S" (ß) is the "@" sign. Words containing an umlauted vowel must be preceded by one or more asterisks. These arbitrary substitutions not only penalize the user for using acceptable substitutions (e.g., "SS"), they also produce forms that do not in the least resemble German words. Here is an

illustration of these distracting alternatives:

DER FU@, DIE *GRO@E, DAS **FRUHSTUCK

Additionally confusing are words which do not clearly indicate where the Umlaut exactly goes. Students have enough difficulties placing them when they have only one choice (BRÜCKE, GRÖßE); but when they have several choices, the decision may not be easy:

*TURSCHLÖ@	(TURSCHLÖ@ or TÜRSCHLO@)
*ÜBERHÖLUNG	(ÜBERHOLUNG or UBERHOLÜNG)
*PRÜFÜNG	(PRUFÜNG or PRÜFUNG)
*WÖRTERBÜCH	(WÖRTERBUCH or WORTERBÜCH)

These alternatives should be avoided because it seems to me they are transforming the "old umlaut bug" into a dinosaur. I would have preferred conventional stand-by substitutions such as "SS" instead of "@" and adding the letter "E" to umlauted vowels ("AE,OE,UE").

SUMMARY

Instead of my customary "Likes" and "Dislikes" summary columns I will conclude with specific statements and recommendations regarding parts of this program which has been available for independent student use in our department for over one year. During the summer of 1982 I monitored the responses and interaction of a group of students using the Basic Verb Drill. Here is a summary of what I concluded from this small project:

1. Program of 228 verbs is entirely too long.
2. Instructions to students poor--too many option instructions too soon--no explanations--not enough loops to justify using a computer over just another book.
3. Word choice and synonym selection too narrow.
4. Error listings which were really no errors demoralized the students because they felt they were wrong and stupid. The more often this occured, the more agitated the learners became and were soon ready to abort interaction altogether.
5. The corrected versions are not left on the screen long enough and students could not see their mistakes; therefore, they could not really learn not to make these errors again.

Here are my recommendations for this one particular drill:

1. Group words in short, 10-item clusters, allowing exiting, checking, re-entry, re-checking, and so forth.
2. Make clear and concise statements with enough time for students to understand what they are to do.
3. Choose fewer, more used vocabulary items, ranging from a variety but grouped areas of life, e.g., school, television, politics, literature, children, parents, friends, food, feelings, death and love.
4. Provide a context which eliminates greatly the wide range of semantic meanings.
5. Have a clear instruction poster nearby, explaining the operation, re-entry steps if students accidentally press a wrong or a "break" key, all mechanical operations which might occur when students are alone with their diskette and the lab attendant on a break.

The students were asked to evaluate the program. Here are some of their responses on this drill:

1. General introductory directions can be improved to be more precise and explanatory, e.g., use of "options" not clear before you see them.
2. Correct answers can be accompanied by stating learner's response was a spelling mistake or

a content error, e.g., grammatical in this module.

3. More time on screen should be alotted when correct answer is provided.
4. At some points the input was not enough for a correct response, especially in English ⟶ German drills, e.g., "TO SPOIL" (a child or food), "TO MISS" (a person or the bus).
5. In the German ⟶ English program, synonyms should also be built into the system, e.g., "ENDEN" (to end or to finish). There are many more such examples.
6. In some German ⟶ English exercises the correct responses were too divergent in meaning, e.g., "ERFAHREN" was said to mean "TO EXPERIENCE, TO FIND." "To experience" to me does not mean "to find" and vice versa; therefore, both of these items cannot stand for "ERFAHREN." I found this confusing if two answers are given side-by-side yet both terms do not translate the vocabulary in question--only one does.
7. There should be a "Help" command to remind user of the commands for returning to practice questions answered incorrectly.
8. At some points during German ⟶ English and English ⟶ German drills, the translations were not the same. This is confusing to a learner, especially in this type of module where everything is tried to be kept in short-

term memory. If item #1 from German ⟶ English involved the word KERL ⟶ GUY, I would expect the same translation to work two minutes later from English ⟶ German. There the term GUY was not accepted as KERL, but as MANN.

9. Some correct responses should include explanations, especially about synonyms.
10. The correct answers should be embedded in a sentence to help facilitate understanding and recall.
11. There was a need to go back and practice the items missed before finishing the whole program, but this is not built into the system. More repetition is necessary.
12. Learners' attention may be directed to generic translation forms which apply to many items such as: "SICH . . .," "BE ABLE TO . . .," "SICH SETZEN," "SIT DOWN."
13. In the English ⟶ German drill if an answer is missed, maybe an explanation should be provided if it was a "close" miss. For example, "TO INTRODUCE, MEET"--is it "VORSTELLEN, TREFFEN or KENNENLERNEN?"
14. Most of my mistakes were on German verbs which have prepositions, whereas their English counterparts do not but this may be idiosyncratic or learner-dependent.
15. I don't know if my frustration stemmed more from the program or from my lack of knowledge.
16. I wanted to look back sometimes to see a preceding item--especially when they were similar.[2]

In short, although there are things I like about some of the seventeen programs included in the three packages, and individual programs may prove helpful to some students in certain areas of grammar and vocabulary, the overall usefulness of these packages is limited. A revised version that addressed the criticisms raised here could, on the other hand, prove suitable for applications requiring this kind of fixed-content CAI, especially for independent work on particular problems.

EVALUATION CRITERIA FOR REVIEW OF FOREIGN LANGUAGE MICROCOMPUTER TEACHING PROGRAMS

RATING FORM for (Title of Program): GERMAN PACKAGES I, II, III

Rating:

Circle the item which best reflects your judgment:

0-	Insufficient Knowledge
NA-	Not Applicable
NAD-	Not Applicable but Desirable
1-	Poor
2-	Fair
3-	Good
4-	Excellent

CONTENT

0 NA NAD 1 (2) 3 4	1. Content is accurate.
0 NA NAD 1 2 3 (4)	2. Content is appropriate to (stated or implied) instructional intent.
0 NA NAD 1 2 (3) 4	3. Level is appropriate for intended user.
0 NA NAD 1 (2) 3 4	4. Content presents a well-rounded view of contemporary usage.

SUPPORT MATERIAL

0 NA (NAD) 1 2 3 4	1. Instructor's guide is clear, comprehensive and useful.
0 NA (NAD) 1 2 3 4	2. Student's guide is clear, comprehensive and useful.

PRESENTATION

0 NA (NAD) 1 2 3 4	1.	Purpose of program(s) is clearly stated.
0 NA (NAD) 1 2 3 4	2.	Program(s) fulfill(s) the stated purpose.
0 NA NAD 1 (2) 3 4	3.	Content organization and presentation are methodologically sound.
0 NA NAD 1 2 (3) 4	4.	Subject matter is relevant to a variety of textbook(s).
0 NA NAD 1 2 (3) 4	5.	Subject matter is adaptable to a variety of textbooks(s).
0 NA NAD (1) 2 3 4	6.	Questions and expected answers are clear, not ambiguous.
0 NA NAD 1 (2) 3 4	7.	Instructional quality of content: summary assessment.
0 NA NAD (1) 2 3 4	8.	Individual lessons are of appropriate length.
0 (NA) NAD 1 2 3 4	9.	Instructor can easily modify program.
0 (NA) NAD 1 2 3 4	10.	Program with flexible content (e.g., authoring program) is powerful, flexible and suitable to a wide range of applications.

STIMULATION OF STUDENT INTEREST

0 NA NAD 1 2 3 (4)	1.	Amount of information in each screen frame is appropriate.
0 NA NAD 1 (2) 3 4	2.	Presentation of program is appealing.
0 NA NAD (1) 2 3 4	3.	Student has mobility within program.
0 NA NAD 1 (2) 3 4	4.	Program employs principles of motivation.
0 NA NAD 1 (2) 3 4	5.	Program stimulates student creativity.

COMPUTER TECHNIQUES

0 NA NAD 1 (2) 3 4	15. Feedback is adequately timed.
0 NA NAD 1 2 (3) 4	16. Feedback frequency is appropriate.
0 NA NAD 1 (2) 3 4	17. Presentation of format is appropriate.
0 (NA) NAD 1 2 3 4	18. Appropriate use of color.
0 (NA) NAD 1 2 3 4	19. Appropriate use if sound.
0 NA (NAD) 1 2 3 4	20. Appropriate use of graphics.
0 NA (NAD) 1 2 3 4	21. Appropriate use of animation.
0 NA NAD 1 2 (3) 4	22. Typable accent marks or alternatives are easy to manipulate.
0 NA NAD (1) 2 3 4	23. Typable accent marks or alternatives are appropriate.
0 NA (NAD) 1 2 3 4	24. Upper and lower case differentiation is easy to manipulate.
0 NA NAD 1 (2) 3 4	25. Program is technically reliable.

COMPUTER TECHNIQUES

0 NA NAD (1) 2 3 4	1. Capability of computer is exploited.
0 NA NAD 1 2 3 (4)	2. Use of computer is a suitable medium.
0 NA NAD 1 2 (3) 4	3. Instructor can easily operate program.
0 (NA) NAD 1 2 3 4	4. Instructor can easily operate program with record keeping feature.
0 (NA) NAD 1 2 3 4	5. Instructor can easily edit program without altering program code.
0 NA NAD 1 2 (3) 4	6. Instructor can easily edit program by altering program code.
0 NA NAD 1 (2) 3 4	7. Student can easily operate program.
0 NA NAD (1) 2 3 4	8. Student can easily exit program without losing work done.
0 NA NAD (1) 2 3 4	9. Student can easily go to on-screen help from any part and back to the same point of instruction.
0 NA NAD (1) 2 3 4	10. Student can easily bypass on-screen instruction if desired.
0 NA (NAD) 1 2 3 4	11. Student can easily save lessons or parts of lessons on printout.
0 NA (NAD) 1 2 3 4	12. Student can easily save lessons or parts of lessons on disk.
0 NA NAD (1) 2 3 4	13. Feedback provides error analysis and correction/ explanation.
0 NA NAD (1) 2 3 4	14. Feedback differentiates substantive from mechanical mistakes (e.g., typos).

PLEASE COMMENT FREELY ABOUT YOUR ASSESSMENT OF THIS MATERIAL:

1. Is it reasonable to use the computer to deliver this instruction?

   ✓ Yes ___ No ___ Not Sure

   How else could this instruction be delivered more effectively?

2. Do you recommend the use of this program?

   ___ Strongly recommend
   ___ Recommend
   ✓ Recommend subject to improvements
   ___ Do not recommend

   Why? Please, identify strengths and weaknesses.

3. What improvements do you recommend to the substance, program or documentation of this package, if any?

Notes

[1] Gerald R. Culley and George W. Mulford, Foreign Language Teaching Programs for Microcomputers: A Volume of Reviews (Dover, Delaware: University of Delaware, 1983), pp. 40-41.

[2] This evaluation project was conducted in Professor Edward Schneider's course "Computers in Education" during July 1982. Those involved in the experiment were intermediate German students.

GERMAN VOCABULARY BUILDER

PLATO Educational Software

OVERALL EVALUATION

	Poor	Fair	Good	Excellent
CONTENT				X
SUPPORT MATERIAL				X
PRESENTATION				X
STIMULATION OF INTEREST				X
COMPUTER TECHNIQUES			X	

LEVEL

High School
College (Possibly)

SYSTEM REQUIREMENTS

→ Apple II Plus (DOS 3.3)
48K
One disk drive

PRICE

$45.00 for first purchase
$35.00 for second

Atari 800, 48K (DOS 2)
Price same

Texas Instruments 99/4A, 32K
Plato Interpreter Cartridge

SOURCE

Control Data Co., Inc.
P.O. Box 261127
San Diego, CA 92126

CONTENT

This vocabulary program is designed to develop vocabulary proficiency and is intended to be used as a supplemental activity to any introductory or refresher course in German. The vocabulary building activity is designed for learners to become familiar

with 500 commonly used German words, including verbs, number words, words commonly used in traveling, shopping, in restaurants or in the home. The exercise provides vocabulary drill and practice in ten categories. These structural presentations of groups of related words provide students with context and similarity clues to help them increase their vocabulary in a fairly systematic manner. The drills are presented in two game-like formats, both of which can be completed in five minutes or less. There is a fill-in-the blank version of hangperson and a multiple-choice pyramid game. These drills can be presented in one of three translation modes: English to German, German to English, or a combination of the two. One drill plays the familiar hangperson game where the student must guess the letters in a word selected by the computer and fill in the blanks. Parts of the gallows are drawn on the screen if the student's answers are incorrect. After too many errors, the attempt is aborted and the learner is "hanging" on the gallows. The definition for the drill is given in one language and the student must find its

equivalent in the opposite language. The other drill is a pyramid game in which the student must correctly answer twelve multiple-choice definition questions to complete a pyramid. When using this vocabulary builder, the student chooses the type of drill, the category and the translation mode by selecting from three menus which appear in the following order: (Sample vocabulary items are added in the "Index" menu below to suggest the grouping technique the program is based on.)

Q U I Z

a. English-German
b. German -English
c. Combination

I N D E X

1.	Basic Words	(SIE, VIELLEICHT, SCHON, WEIL)
2.	Personal	(DER KORPER, DER MANTEL, DER ZAHN)
3.	Number Words	(ERSTE, EINS, ZWANZIG, DER JANUAR)
4.	Traveling	(DIE ADRESSE, DAS GEBACK, DAS MUSEUM)
5.	Useful Verbs	(SEIN, LEBEN, STERBEN, ANSEHEN)
6.	What to Eat	(DER APFEL, DER WEIN, DAS FLEISCH)
7.	Around Home	(DER STUHL, DAS KIND, DIE KUCHE)
8.	Shopping	(KAUFEN, VERKAUFEN, DAS GELD)
9.	School Days	(DER LEHRER, DIE VORLESUNG)
10.	Miscellaneous	(DER HUND, DIE NADEL, GELB, LEER)

What's your pleasure?

1. Pyramid Game (multiple choice)

2. Hangperson (fill-in-the-blanks)

The game rules are simply stated, extremely clear and easy to follow.

SUPPORT MATERIAL

The PLATO" Vocabulary Builder provides by far the best documentation for fixed content programs of the twelve packages under review. The documentation is clear, concise and informative both on the technical aspects of running the program and on matters of substance. Among its substantive features are:

1. A clearly stated introduction about the nature of the program emphasizing that the content is educationally sound, intended to increase the student's German vocabulary in an "environment of fun, excitement and challenge." (Program Manual, p.9)
2. The lesson flow describing the available features, options and the scoring and record-keeping methods.
3. Teaching and learning strategies pointing out that this computer-based activity is primarily an individual or small group exercise, useful for individual drill, practice session, assessment or motivational purposes.

4. Sample worksheets and supplemental activities intended for use by secondary level students, come with a written permission for instructors to copy and distribute them for instructional purposes.

The support literature has, moreover, very precise and clearly stated equipment configurations and loading instructions for the computers able to run this program: Apple II Plus, Atari 800 and TI99/4A. An informative drawing illustrates how a disk and its diskdrive operate together.

PRESENTATION

The presentation of the content shows that the author(s) gave serious thought to underlying principles of learning. When a game, for instance, has been chosen, the student has the option of beginning the lesson immediately or reviewing the rules and/or the vocabulary list for the selected category. The program randomly selects words for each exercise from the vocabulary list. The only limitation on this is that, once an exercise has begun, the student may not go back and examine the vocabulary list again.

Hangperson is played by guessing all of the letters in the word to be translated. The game begins by displaying the following format:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

PICK A LETTER

I am thinking of a German word meaning _____
(The blank represents the word the program has selected for translation.)

The student guesses letters and enters them on the screen. When a letter is guessed correctly, it disappears from the alphabet at the top of the screen, accompanied by a friendly beep and the letter appears instead in its proper place(s) inside the requested word. An incorrect guess is announced by a deep beep and segments of the gallows are drawn on the screen. The student is allowed five incorrect guesses. On the sixth one, a stick person appears hanging from the gallows and the student "loses." The correct answer is then displayed before the program proceeds to the next word. Once a letter has been guessed and removed itself from the alphabet at the top of the screen, it cannot be selected again; the computer will not accept it.

The pyramid game consists of a series of twelve multiple-choice translation questions. A word is given in one language and four possible translations are listed, one of which must be identified as correct. The object of this exercise is to correctly answer all the questions and "win" the largest possible amount of money. The monetary value of each succeeding question is doubled. The first question is worth $2.00, the second, if answered correctly, $4.00, then $8.00, and so forth. Each answer builds a block of the pyramid. If, however, an incorrect answer is given, all of the accumulated blocks disappear and the value of the next question drops back to $2.00. The computer automatically keeps track of the student's total earnings in each exercise. For this, personal records may be kept for younger learners wishing to belong to, say, the "Millionaires Club" in a particular category, e.g., "Traveling." Sample record sheets for such classroom activities are found in the student materials section of the manual.

STIMULATION OF STUDENT INTEREST

Using a game-like format is certainly appealing to younger learners, especially since the exercises make considerable use of graphics to provide visual stimulation. In the pyramid game additional interest is added by the "double your money" method described above, which both rewards correct answers and discourages mistakes.

COMPUTER TECHNIQUES

1. Feedback to Students:

During the pyramid game the computer tells the student whether the answer is right or wrong and then supplies the translations for all other multiple-choice items not asked in the drill. Let's say the word to be translated into German is

Thursday

and the available choices are:

1. Faden
2. Wolf
3. Spiel
4. Donnerstag

After the student selects 4. Donnerstag for his answer, the screen displays the other responses also:

1. Faden
   thread
2. Wolf
   wolf
3. Spiel
   game
4. Donnerstag
   thursday

These answers are displayed until the student chooses to proceed by hitting ENTER. This method of providing German/English equivalents for the alternative choices is especially useful when the student selected an answer by guessing. Consequently, each multiple-choice question results in the student's learning more than one correct answer. Multiple choice becomes multiple learn.

Each question also provides a help option. If the student requests help by pressing CTRL-Q, one of the three "incorrect" answers will be translated, leaving only three from which the student must choose the correct one. The help option can be used only once for each question and if it is used, the student receives only half of the money for that question.

2. Color; Sound; Graphics:

The use of color, sound and graphics are the three most striking features of this program.because the colorful screen displays and the optional and varying sounds for correct and incorrect repsonses are motivationally used. When the pyramid, for instance, is filled-in with different color stripes

for each correct answer, a different sound growing in volume announces the progression of the game. Crescending sound pitches are also used when different parts of the gallows are drawn. Furthermore, the bright blues, pinks and greens are friendly and good for reading the screen print. As mentioned elsewhere, the increasing sound announcing game progress may be disturbing to other students in the same room or may even intimidate the users since their skills are so advertised. They may wish to lose privately. With this program students can turn the sound off altogether any time they wish.

Reservations:

During the Hangperson game the letters had to be typed several times, pressed extra hard and jiggled. The contact between the letters and screen seemed poor. At times, pressing the letters hesitantly and slowly helped somewhat. Since I only had this problem with one other Apple program (Krell's Micro-Deutsch), I assume this to be a software problem.

3. Accent Marks:

For the pyramid game there was no need for students to key in German words since the answers were to be found among a multiple-choice of letters: A., B., C., D. The entire alphabet used in playing Hangperson appears in upper case only and in order to achieve accented letters, the alphabet is expanded to include the following letters:

For ß type 1
For Ä type 2
For Ü type 3
For Ö type 4

If an accented vowel is needed, the student simply presses the corresponding number key.

Summary:

The program makes effective use of some of the unique capabilities of the computer. In my two-column summary I will highlight advantages and disadvantages I experienced with the program:

LIKES	DISLIKES
1. Visual and audio impact motivates student.	1. In addition to the game modes which have their limitations, I wished for a third, straight forward drill format so that a larger audience could be addressed.
2. Quality of content and presentation.	2. The gimmickry of the games though fine as motivation for some students, may also needlessly distract older or more serious students from the material to be learned.
3. Sound optional.	3. Letter and screen contact during Hangperson game weak which slowed down the game.
4. Good support literature which aids in preparation of program for classroom use and integration into course.	4. Obvious misprint in manual and on screen: "ankle = der Enkel."
5. Consistency between program and documentation.	
6. Game-like presentation suitable for younger audience but perhaps also for college students in playful moments.	
7. Fair policy to supply back-up disk for $15.00 (original $ 45.00).	

EVALUATION CRITERIA FOR REVIEW OF
FOREIGN LANGUAGE MICROCOMPUTER TEACHING PROGRAMS

RATING FORM for (Title of Program): PLATO
German Vocabulary Builder

Rating:

Circle the item which best reflects your judgment:

0- Insufficient Knowledge
NA- Not Applicable
NAD- Not Applicable but Desirable
1- Poor
2- Fair
3- Good
4- Excellent

CONTENT

0 NA NAD 1 2 (3) 4	1. Content is accurate.
0 NA NAD 1 2 3 (4)	2. Content is appropriate to (stated or implied) instructional intent.
0 NA NAD 1 2 3 (4)	3. Level is appropriate for intended user.
0 NA NAD 1 2 3 (4)	4. Content presents a well-rounded view of contemporary usage.

SUPPORT MATERIAL

0 NA NAD 1 2 3 (4)	1. Instructor's guide is clear, comprehensive and useful.
0 NA NAD 1 2 3 (4)	2. Student's guide is clear, comprehensive and useful.

PRESENTATION

0 NA NAD 1 2 3 (4)	1. Purpose of program(s) is clearly stated.
0 NA NAD 1 2 3 (4)	2. Program(s) fulfill(s) the stated purpose.
0 NA NAD 1 2 3 (4)	3. Content organization and presentation are methodologically sound.
0 NA NAD 1 2 (3) 4	4. Subject matter is relevant to a variety of textbook(s).
0 NA NAD 1 2 (3) 4	5. Subject matter is adaptable to a variety of textbooks(s).
0 NA NAD 1 2 3 (4)	6. Questions and expected answers are clear, not ambiguous.
0 NA NAD 1 2 3 (4)	7. Instructional quality of content: summary assessment.
0 NA NAD 1 2 3 (4)	8. Individual lessons are of appropriate length.
0 (NA) NAD 1 2 3 4	9. Instructor can easily modify program.
0 (NA) NAD 1 2 3 4	10. Program with flexible content (e.g., authoring program) is powerful, flexible and suitable to a wide range of applications.

STIMULATION OF STUDENT INTEREST

0 NA NAD 1 2 3 (4)	1. Amount of information in each screen frame is appropriate.
0 NA NAD 1 2 3 (4)	2. Presentation of program is appealing.
0 NA NAD 1 2 (3) 4	3. Student has mobility within program.
0 NA NAD 1 2 3 (4)	4. Program employs principles of motivation.
0 NA NAD 1 2 3 (4)	5. Program stimulates student creativity.

COMPUTER TECHNIQUES

0 NA NAD 1 2 (3) 4	1. Capability of computer is exploited.
0 NA NAD 1 2 3 (4)	2. Use of computer is a suitable medium.
0 NA NAD 1 2 3 (4)	3. Instructor can easily operate program.
0 (NA) NAD 1 2 3 4	4. Instructor can easily operate program with record keeping feature.
0 (NA) NAD 1 2 3 4	5. Instructor can easily edit program without altering program code.
(0) NA NAD 1 2 3 4	6. Instructor can easily edit program by altering program code.
0 NA NAD 1 2 3 (4)	7. Student can easily operate program.
0 NA NAD 1 2 (3) 4	8. Student can easily exit program without losing work done.
0 NA NAD 1 2 3 (4)	9. Student can easily go to on-screen help from any part and back to the same point of instruction.
0 NA NAD 1 2 3 (4)	10. Student can easily bypass on-screen instruction if desired.
0 NA (NAD) 1 2 3 4	11. Student can easily save lessons or parts of lessons on printout.
0 (NA) NAD 1 2 3 4	12. Student can easily save lessons or parts of lessons on disk.
0 NA NAD 1 (2) 3 4	13. Feedback provides error analysis and correction/ explanation.
0 NA NAD (1) 2 3 4	14. Feedback differentiates substantive from mechanical mistakes (e.g., typos).

COMPUTER TECHNIQUES

0 NA NAD 1 2 3 (4)	15. Feedback is adequately timed.
0 NA NAD 1 2 3 (4)	16. Feedback frequency is appropriate.
0 NA NAD 1 2 3 (4)	17. Presentation of format is appropriate.
0 NA NAD 1 2 3 (4)	18. Appropriate use of color.
0 NA NAD 1 2 3 (4)	19. Appropriate use if sound.
0 NA NAD 1 2 3 (4)	20. Appropriate use of graphics.
0 NA (NAD) 1 2 3 4	21. Appropriate use of animation.
0 NA NAD 1 2 3 (4)	22. Typable accent marks or alternatives are easy to manipulate.
0 NA NAD 1 2 3 (4)	23. Typable accent marks or alternatives are appropriate.
0 NA (NAD) 1 2 3 4	24. Upper and lower case differentiation is easy to manipulate.
0 NA NAD 1 2 (3) 4	25. Program is technically reliable.

PLEASE COMMENT FREELY ABOUT YOUR ASSESSMENT OF THIS MATERIAL:

1. Is it reasonable to use the computer to deliver this instruction?

   ✓ Yes ___ No ___ Not Sure

   How else could this instruction be delivered more effectively?

2. Do you recommend the use of this program?

   ___ Strongly recommend
   ✓ Recommend
   ___ Recommend subject to improvements
   ___ Do not recommend

   Why? Please, identify strengths and weaknesses.

3. What improvements do you recommend to the substance, program or documentation of this package, if any?

THE LINGUIST

OVERALL EVALUATION

	Poor	Fair	Good	Excellent
CONTENT	NA			
SUPPORT MATERIAL		X		
PRESENTATION			X	
STIMULATION OF INTEREST			X	
COMPUTER TECHNIQUES				

LEVEL

High School
College

SYSTEM REQUIREMENTS

Apple II, Apple II Plus
48K
One disk drive

PRICE

$40.00

SOURCE

Synergistic Software
830 N. Riverside Dr., Suite 201
Renton, WASH 98055
Tel. (206) 226-3216

CONTENT

This general purpose foreign language translation and tutorial program allows the computer to print Hebrew, Russian, Japanese, Greek, German and the Romance languages. The program is an editing tool for storing instructor-supplied information in three formats. Apart from a demonstration database, the disk is free of content. The

instructor supplies the content and has the choice of entering up to 4,400 word pairs, 2,600 definitions and 2,200 phrase equivalents per 16 sector formatted disk.

The user is first asked which of the three formats are desired: the Definer, the Translator or the Phrasebook. The Definer is similar to a lexicon because it requests a word of up to 15 characters in one language to be defined with a definition of up to 40 characters in another or the same language. This is very useful for drills intended to review concepts or practice short idioms. The second format, the Translator, stores vocabulary items of up to 15 characters each in any one or two languages, and its use most resembles that of a dictionary. The third format, the Phrasebook, provides the largest amount of space: up to forty characters per item in each language. The program works with any pairing of languages, or with one language only. For instance, the Definer can prompt the student with English vocabulary (maximum 15 characters per item) that has been defined in German (maximum 40 characters). The

language format may be reversed at any time during the drill. One may also keep both vocabulary and definitions in the same language, which is of course excellent for somewhat more advanced students. For the three programs the maximum word totals are:

The Translator	-	329 word pairs
The Definer	-	187 words and definitions
The Phrasebook	-	123 phrase pairs

The number of separate files is limited only by disk space. New files are automatically numbered, and the master program can continue working with any of them it can access. Altering files already created is simple, but deleting them requires DOS procedures. After files have been created, students can either use them for practice and review or for an intensive test.

SUPPORT MATERIAL

The manual's ambiguities make it moderately useful even if studied carefully by the instructor prior to using the program. The user must figure out a great deal by trial-and-error. I would have preferred a manual more clearly written and better organized. Students, on the other hand, should find

on-screen instructions sufficient.

STIMULATION OF STUDENT INTEREST

The screen display is clear and pleasing. Unlike some other packages, this one has no cluttered picture and is striking in its simplicity. The messages are brief and to the point. A student who is operating in the Definer mode, for instance, may find the visual distinction between German characters (½") and English characters (¼") especially appealing and effective. I would like to see more use made of this visual differentiation because I believe learning takes place on a subliminal level also, and imprinting the foreign language in large letters is one way.

COMPUTER TECHNIQUES

Another motivational factor is the program's ability to keep track of the number of correct and incorrect responses. When students answer correctly, the word "RIGHT" appears on the screen and moves from left to right, accompanied by a beeping sound. When they make an error, they hear a deeper beep and see the correct answer immediately with the word "WRONG" on the screen. After a drill

is completed, results are informatively displayed in a manner I found to be motivating:

3 Questions (+5 each) = 15
0 Wrong (-5 each) = -0
0 Hints (-1 each) = -0
15 or 100%

Students have the option to be tested on all the words in the files and to choose to have items displayed randomly or in fixed alphabetical order. There are no hints if the student types in an incorrect answer, but help can be saught if difficulties arise. The first hint provides the initial letter of the word or phrase concerned. A second hint, if requested, lists the number of syllables of the vocabulary item in question; this is accomplished by a series of dotted lines.

Reservations:

If students do not know an answer, they may find it difficult to exit the program. I found no hints to that effect in the manual. Only by accidentally pressing the "RETURN" key twice, could I exit. In spite of the fact that this program is appealing to the eye in its pleasing use of a variety of bright colors, I am less

taken with the use of the beeping sound. The two (different) beeps for right and wrong answers respectively are rather loud and readily distinguishable. I wonder how motivating the lower beep will be to students who have their errors announced to all within earshot. They may, in fact, become self-conscious and begin to hesitate using the program.

The timing of corrections was also a problem for me. Corrections are made but do not stay on the screen long enough. I would prefer if students themselves dismiss screen display of corrected mistakes.

There are two elaborate graphics pages in "demo" section of the program disk. They are explicit, take a long time to plot and, as best I can judge, add little to the instructional value of the program.

The typable diacritical marks will print on top of the character that was typed before the accent symbol was typed. The symbol assigned to the ampersand (&) key produced the dieresis for the umlaut-vowels. When this key is depressed,

the program backs up to the last character typed and prints the dieresis above that character. Sometimes, however, when pressing this key, there was no response for no apparent reason. A student would be confused under such circumstances. Moreover, I found the "ß" neither in the manual nor on the keyboard. Conversations with others who have used the Linguist prompt me to include the caveat that manipulation of diacritical marks has apparently proven to be a problem in general, not just in German.

SUMMARY

I find this program a powerful and flexible tool for creating and editing vocabulary drills. Unfortunately, the program has only very limited abilities to branch to provide individualized feedback. The program is well suited to applications in which the learning can be confined to flashcard-type exercises. Of course, by its very nature the Linguist is easily adapted to any textbook thay includes--or can be supplemented with--drills of this type. Once more, I reiterate my "Likes" and "Dislikes:"

LIKES	DISLIKES
1. Great potential for supplying customized content.	1. Feedback message not substantive enough.
2. On-screen instructions good.	2. Support literature not always clear.
3. Simple, uncluttered screen display.	3. Beeping sounds for "right" and "wrong" answers too loud.
4. Brief, effective screen messages.	4. No exit during drill.
5. Distinction by letter size (German ½", English ¼") in the Definer mode.	5. Corrected answers disappeared too quickly.
6. Record-keeping feature useful.	6. Program demonstration graphics too slow; once started, cannot be dismissed.
7. Choice of randomized or alphabetized drill routines.	7. Operation of typable diacritical marks not reliable technically.
8. Hints available.	8. Never found "ß" or explanations regarding substitution.
9. Typable diacritical marks easy to operate and visually clear.	

EVALUATION CRITERIA FOR REVIEW OF
FOREIGN LANGUAGE MICROCOMPUTER TEACHING PROGRAMS

RATING FORM for (Title of Program): THE LINGUIST

Rating:

Circle the item which best reflects your judgment:

0- Insufficient Knowledge
NA- Not Applicable
NAD- Not Applicable but Desirable
1- Poor
2- Fair
3- Good
4- Excellent

CONTENT

0 (NA) NAD 1 2 3 4	1. Content is accurate.
0 (NA) NAD 1 2 3 4	2. Content is appropriate to (stated or implied) instructional intent.
0 (NA) NAD 1 2 3 4	3. Level is appropriate for intended user.
0 (NA) NAD 1 2 3 4	4. Content presents a well-rounded view of contemporary usage.

SUPPORT MATERIAL

0 NA NAD 1 (2) 3 4	1. Instructor's guide is clear, comprehensive and useful.
0 (NA) NAD 1 2 3 4	2. Student's guide is clear, comprehensive and useful.

PRESENTATION

0 NA NAD 1 (2) 3 4	1. Purpose of program(s) is clearly stated.
0 NA NAD 1 (2) 3 4	2. Program(s) fulfill(s) the stated purpose.
0 NA NAD 1 2 (3) 4	3. Content organization and presentation are methodologically sound.
0 (NA) NAD 1 2 3 4	4. Subject matter is relevant to a variety of textbook(s).
0 NA NAD 1 2 3 (4)	5. Subject matter is adaptable to a variety of textbooks(s).
0 (NA) NAD 1 2 3 4	6. Questions and expected answers are clear, not ambiguous.
0 (NA) NAD 1 2 3 4	7. Instructional quality of content: summary assessment.
0 NA NAD 1 2 3 (4)	8. Individual lessons are of appropriate length.
0 NA NAD 1 2 (3) 4	9. Instructor can easily modify program.
0 NA NAD 1 2 (3) 4	10. Program with flexible content (e.g., authoring program) is powerful, flexible and suitable to a wide range of applications.

STIMULATION OF STUDENT INTEREST

0 NA NAD 1 2 3 (4)	1. Amount of information in each screen frame is appropriate.
0 NA NAD 1 2 3 (4)	2. Presentation of program is appealing.
0 NA NAD 1 (2) 3 4	3. Student has mobility within program.
0 NA NAD 1 2 (3) 4	4. Program employs principles of motivation.
0 NA NAD 1 2 (3) 4	5. Program stimulates student creativity.

COMPUTER TECHNIQUES

0 NA NAD 1 2 (3) 4	1. Capability of computer is exploited.
0 NA NAD 1 2 3 (4)	2. Use of computer is a suitable medium.
0 NA NAD 1 (2) 3 4	3. Instructor can easily operate program.
0 NA NAD 1 2 (3) 4	4. Instructor can easily operate program with record keeping feature.
0 NA NAD 1 2 (3) 4	5. Instructor can easily edit program without altering program code.
(0) NA NAD 1 2 3 4	6. Instructor can easily edit program by altering program code.
0 NA NAD 1 2 (3) 4	7. Student can easily operate program.
0 NA NAD (1) 2 3 4	8. Student can easily exit program without losing work done.
0 NA NAD 1 (2) 3 4	9. Student can easily go to on-screen help from any part and back to the same point of instruction.
0 NA NAD (1) 2 3 4	10. Student can easily bypass on-screen instruction if desired.
0 NA (NAD) 1 2 3 4	11. Student can easily save lessons or parts of lessons on printout.
0 NA (NAD) 1 2 3 4	12. Student can easily save lessons or parts of lessons on disk.
0 NA NAD (1) 2 3 4	13. Feedback provides error analysis and correction/ explanation.
0 NA NAD (1) 2 3 4	14. Feedback differentiates substantive from mechanical mistakes (e.g., typos).

COMPUTER TECHNIQUES

0 NA NAD (1) 2 3 4	15. Feedback is adequately timed.
0 NA NAD 1 2 (3) 4	16. Feedback frequency is appropriate.
0 NA NAD 1 2 (3) 4	17. Presentation of format is appropriate.
0 NA NAD 1 2 3 (4)	18. Appropriate use of color.
0 NA NAD (1) 2 3 4	19. Appropriate use if sound.
0 NA NAD 1 2 3 (4)	20. Appropriate use of graphics.
0 NA (NAD) 1 2 3 4	21. Appropriate use of animation.
0 NA NAD 1 2 3 (4)	22. Typable accent marks or alternatives are easy to manipulate.
0 NA NAD 1 2 3 (4)	23. Typable accent marks or alternatives are appropriate.
0 NA NAD 1 2 3 (4)	24. Upper and lower case differentiation is easy to manipulate.
0 NA NAD 1 (2) 3 4	25. Program is technically reliable.

PLEASE COMMENT FREELY ABOUT YOUR ASSESSMENT OF THIS MATERIAL:

1. Is it reasonable to use the computer to deliver this instruction?

   ✓ Yes ___ No ___ Not Sure

   How else could this instruction be delivered more effectively?

2. Do you recommend the use of this program?

   ___ Strongly recommend
   ✓ Recommend
   ___ Recommend subject to improvements
   ___ Do not recommend

   Why? Please, identify strengths and weaknesses.

3. What improvements do you recommend to the substance, program or documentation of this package, if any?

MICRO-DEUTSCH

by John Russell and JoAnn Comito

OVERALL EVALUATION

	Poor	Fair	Good	Excellent
CONTENT				X
SUPPORT MATERIAL	X			
PRESENTATION		X		
STIMULATION OF INTEREST	X			
COMPUTER TECHNIQUES		X		

LEVEL

College

SYSTEM REQUIREMENTS

Apple II Plus (DOS 3.3)
48K
One disk drive

PRICE

$179.95

PET, 16K
Cassette/Disk

SOURCE

Krell Software Corp.
1320 Stony Brook Road
Stony Brook, NY 11790
Tel. (516) 751-5139

CONTENT

This program includes 24 menu driven grammar units, covering all materials of an introductory German course. Five modules of similar format make up each unit. The entire program uses a drill format. Four test units accompanying the lessons include substitution and transformation drills, item ordering, translations and verb drills. The

The drill vocabulary is based on frequency lists (producer does not say which), and the program was, it is claimed, extensively tested at SUNY, Stony Brook, New York. The content itself is free of errors, brief and to the point and arranged in order of increasing difficulty. Each of the 24 grammar units takes approximately one hour of student time.

SUPPORT MATERIAL

Included with the program diskette is an instructor manual. This documentation is by far the lengthiest among the packages I reviewed. It consists primarily of the printed grammatical rules that appear on the screen.

Reservations:

Other than that, the documentation provides very little useful information, and there are some problems with the information presented. The first is inconsistency in nomenclature. From reading the manual p. 1, one expects to find "Module 1 of Unit 1" on the screen; the screen itself reads "Lesson 1, Module 1." Although a relatively minor problem, inconsistency is confusing because, when asked what lesson one wishes to use, the user does not know

exactly what is meant, the unit or the module. Furthermore, I wondered why important run-time information that appeared in the manual for instructor use does not also appear on the screen for the student. Below is one example of this discrepancy that illustrates the potential difficulty for the student who has no documentation beyond the screen and is thus dependent on thorough instructions there:

Instructions on screen:

SCREEN 1

German has a second subjunctive, Konjunktiv 1, which puts distance between a reporter and that which is reported. It is formed in the present by adding the endings e, est, e, en, et, en to the infinitive stem, the only exceptions being ich sei und er sei.

Er sagte, "Ich komme."
Er sagte, daß er komme.
He said that he was coming.
Note that the German preserves the tense of the original quote.
Er sagte, "Ich komme." -- Er sagte, daß er komme.

SCREEN 2

In the drill, rewrite the given indicative sentence into indirect quotes with Konjunktiv 1.

1. Sie sagte zu ihm, "Ich komme mit."

Indirect:

1. _____(Student types answer)_____

The "corresponding" text in the manual:

(Note: I have underlined important deletions which I would have liked seen duplicated on the screen.)

> German also has a Konjunktiv 1 formed from the infinitive stem with the same endings used for K II. The one exception is "sein" which has only "sei" for the 1st and 3rd singular.
>
> The chief use for this form is indirect quotation where its use puts distance between the speaker and the indirect quote.
>
> Note that German preserves the tense of the original statement:
> Er sagte, "Ich komme". - Er sagte, daß er komme.
>
> Note also that with the indirect quote, the person spoken to follows "zu" while the indirect quote simply uses an indirect object:
>
> Sie sagte zu mir, "Ich liebe dich". - Sie sagte zu mir, daß sie mich liebe.
>
> In the drill, rewrite the sentences to form indirect quotes. Remember to upshift for commas.

The student without the instructor's manual would probably also enjoy the reminder about "zu" and the punctuation for commas.

The organization of the program's contents on the three disks is not readily apparent. The first hindrance is that the relevant information is rather obscurely tucked away at the bottom of page iii. Busy teachers would like to know upon a quick glance at the manual's impressively long table of contents in what segments the disks contain the entire program. The second hindrance is that a user who has no access to page iii of the documentation does not know what can be expected in each unit and where to find the test modules for each unit. When the first diskette is inserted, the student simply must choose a lesson number without seeing what the lesson contains. It is a good idea to make a table of contents available on the screen.

PRESENTATION

Content:

This program involves a complete grammar review and is best suited for use in conjunction with a course of study or as a grammar review.

Reservations:

The grammatical instructions are presented

slowly, one letter at a time. Unfortunately, after reading the first set of instructions, I did not immediately know how to do the drill. For instance, when I first entered the disk, I chose Unit 1, Module 1, the verb "to be." The instructions appeared slowly, l e t t e r by letter and read as follows:

> T h e German verb "sein" 'to be' is, like its English equivalent, quite irregular. Learn its present tense forms along with the pronouns:
>
> | | | | |
> |---|---|---|---|
> | I am | ich bin | we are | wir sind |
> | you are | du bist | you are | ihr seid |
> | he is | er ist | they are | sie sind |
> | she is | sie ist | you are | Sie sind |
> | it is | es ist | | |
>
> The 'formal' you, Sie, is both singular and plural; du and ihr are 'familiar' and used with family, intimate friends, God, pets and pre-pubescents.
>
> Note that although some nouns such as Mädchen 'girl' are grammatically neuter, German usually uses the 'neutral' gender sie in referring to a girl.
>
> In the drill, rewrite the sentences by substituting the new subject.

Based on these instructions I was unable to execute the drill successfully. Following the above instructions, the screen displayed these drills:

Screen: Cue 1: Das Beispiel ist neu.

Screen: Cue 2: SIE ____ _____

I found the cue inadequate as an indicator that the plural verb "sind" was expected. As a matter of fact, I became rather confused since the only hints I hade were the pronoun "SIE" and three short lines.

Screen: Student types for the first time:

SIE IST NEU.

Screen: Cue 3:

___ ___ ___.

This cue meant I should try again.

Screen: Student types for the second time:

ES IST NEU.

Screen: Cue 4:

___ ___ ___.

This cue meant I should try again. Since I did not know what to do anymore, I tried my first answer again.

Screen: Student types for the third time:

SIE IST NEU.

Screen: Cue 5:

SIE SIND NEU.

The last screen displayed the correct answer and made me feel a bit inadequate because I

did not guess what the program wanted me to do.

The number of lines and the screen cue "SIE" did not help to determine the correct answer. Since the third and fourth cue presented only three blanks, students may assume they must type either the same answer again or something new because they feel they were incorrect somehow. As it turned out later, students must type <u>any</u> answer three times whether it is correct or incorrect. That the expected answer should have been in the plural with only the "SIE" cue may not be confusing to users who are fairly familiar with the language but to most struggling college students, this direction may not be readily apparent. Clearly, instructions not only asking for the re-writing of the sentences with the new subject but also pointing out the changes involved coupled with a sample drill, may help the user to know that the answer had to be typed three times regardless of it being right or wrong. I even wonder if it is a good idea to reinforce a wrong answer by typing it three times since accurate or inaccurate input does not influence the three-time repetition.

As a matter of fact, after a user finds out how to execute the drills, typing each sentence three times may prove tiresome and perhaps even demotivate the student.

Occasionally, the presentation of the content was impaired by chopping up words or separating punctuation marks both of which may seem confusing to the student. The spelling of "ich," for instance, made reading it a bit cumbersome:

> Der Oberst erwiderte, "Deswegen bin ic
> h für die Bombe."

On several other occasions the quotation symbol appeared on the succeeding line and that, too, may hinder communication somewhat:

> (")Der Beamte erklärte, "Das stimmt nicht.(-)

The following line carried the concluding quotation mark needed after "nicht." As it was, it appeared at the beginning of the sentence which is really the top line of the one following "nicht." The sentence was clearly awkward to read. Perhaps a minor point, but I would like to see students learn the German form of introducing and placing citation marks. They are different from English forms and

would appear thus:

Der Beamte erklärte: „ Das stimmt nicht."

The arrangement of the content needs considerable improvement. The items could be better randomized because some occurred three times in a row, then immediately again after two intervening questions. At one time no other items intervened and a student may feel trapped in a perpetual loop. This was the experience:

Unit 2, Module 1, Verb Conjugation

Screen: Cue 1:
Gehst du in das Haus?
Question 1: ICH ____ __ ___ ____.
Student types:
ICH GEHE IN DAS HAUS.

Screen: Cue 2:
Glaubt ihr das?
Question 2: WIR _____ ___
Student types:
WIR GLAUBEN DAS.

Screen: Cue 3:
Kommst du mit?
Question 3: ICH _____ ___.
Student types:
ICH KOMME MIT.

Screen: Cue 4:
Habt ihr viel Geld?
Question 4: WIR _____ ____ ____.
Student types:
WIR HABEN VIEL GELD.

Screen: Cue 5:
Bleibt du und Karl zu Hause? (sic)
Question 5: WIR _____ __ _____.
Student types:
WIR BLEIBEN ZU HAUSE.

Screen: Cue 6:
Tun Sie das oft?
Question 6: ICH ___ ___ ___.

Screen: Cue 7:
Gehst du in das Haus? (Same as cue 1)

Screen: Cue 8:
Bleibt du und Karl zu Hause? (Same as cue 5)

Screen: Cue 9:
Bringen die Männer die Post?

Screen: Cue 10:
Bringen die Männer die Post? (Same as cue 9)

Screen: Cue 11:
Glaubt ihr das? (Same as cue 2)

Screen: Cue 12:

Bringen die Männer die Post?

Screen: Cue 13:

Bringen die Männer die Post?

Screen: Cue 14:

Bringen die Männer die Post?

Removal of the disk proved the only way to exit.

The content quality of the vocabulary items was generally fine, although occasionally an awkward sentence was generated, like:

Screen: Cue 1:

Der Satz ist leicht.

Question 1: ICH ___ _____.

Student types:

ICH BIN LEICHT.

STIMULATION OF STUDENT INTEREST

1. Mobility:

Most frustrating to me was the inability to exit a lesson. The user is locked into the system and can not get out to go to another module. Taking out the disk and starting all over is the only recourse.

2. Presentation:

The manner of testing I found very effective because with minimal instructions the student easily responds to the tasks. The instructions may be no more than a question or exclamation mark. I found it a pleasure to go through the test modules. The grammatical material tested covers a large area. The following three test items, for instance, cover the possessive case, familiar command form and indirect/direct object pronoun forms. They may serve to illustrate the method:

Screen: Question 1:

? Wessen Seife ist das?
_____ Frau.

Student types:

Das ist die Seife der Frau.

Screen: Question 2:

! Du gibst mir das Buch.

Student types:

Gib mir das Buch!

Screen: Question 3:

Er gibt dem Herrn das Buch.

(object pronouns)

Student types:

Er gibt es ihm.

COMPUTER TECHNIQUES

1. Feedback:

The feedback to students is limited (a) to waiting for a couple of tries and (b) to supplying the correct answer, typically after the third try. At one time during the Unit test, the answer was supplied before I even attempted to respond. The experience looked like this:

Screen: Cue 1:

Das Kind wartet auf die Mutter.

(pronoun or da)

Answer was supplied immediately:

Das Kind wartet auf sie.

2. Use of Color:

Because of the screen's low resolution, the blue and red colors make reading the text difficult

and tiring.

3. Accent Marks:

The method the student is to use to obtain accent marks is excellent. But the instructions for this are presented very early in the program and not repeated. No practice was offered and I found it hard to remember just how to do it when the time for keying in letters with umlauts finally arrived. Perhaps keeping the manipulation scheme in the upper right hand corner of the screen for a while or providing immediate opportunities to try the various key operations would be helpful. Here is the system as explained on the screen:

```
ESC 1--lower case Umlaut A (all visuals ap-
ESC 2--upper case Umlaut A  peared in upper
ESC 3--lower case Umlaut O  case only)
ESC 4--upper case Umlaut O
ESC 5--lower case Umlaut U
ESC 6--upper case Umlaut U
ESC 7-- ESZET               ß
```

I would have preferred a clearer message distinguishing upper and lower case designations:

```
ESC 1--lower case Umlaut a--ä
ESC 2--upper case Umlaut A--Ä
```

4. Technical Reliability:

The program execution is a bit slow. For instance, the third diskette needed two minutes to load Unit test 7. Additionally, the keyboard response is hard

and slow. The keys have to be hit deliberately, slowly and hard (even harder than, say, the average touch-tone telephone), otherwise the letters do not register. Even when the keys are depressed with adequate vigor, the letters are slow to appear on the screen. I tend do think that this is not due to a problem with the Apple I was using, and no other program I have seen, for the Apple or the other machines, evinced such characteristics.

SUMMARY

I do want to commend John Russell for the many years of efforts that went into this project which despite some limitations has many strengths and considerable potential. The program reviews a substantial amount of German grammar--a scope only matched by Apfeldeutsch with nine diskettes--and is a great asset for additional practice for students needing to brush-up on German skills or maybe just to review specific problem areas. Revisions are needed to correct the deficiencies noted above and especially to provide better feedback.[1]

The program took several years of developing and testing and could still benefit a great deal from more revisions. Here is a summary of the "Likes" and "Dislikes" from a teacher's point of view:

LIKES	DISLIKES
1. Grammatical rules partly duplicated in documentation.	1. Documentation limited usefulness.
2. Comprehensive scope of program's grammar review.	2. Important program organizational data obscurely placed in manual.
3. Content accuracy.	3. Documentation inconsistency in nomenclature and screen instructions.
4. Basic content organization with increasing difficulty level.	4. No table of contents on screen.
5. That there are unit tests.	5. Content arrangement--better randomizing.
6. The method of testing.	6. Unclear instructions for drill execution.
7. Visual presentation--letter-by-letter of grammatical instructions.	7. Drill method not varied but tiresome.
8. Easy manipulation of upper and lower case.	8. Single-time exposure to method of accent mark manipulation.
9. Manipulation to achieve umlauts and ß.	

9. One hour per lesson unit.
10. Locked-in feeling of no exit.
11. Feedback--3 tries--then a correct answer.
12. Ànswer supplied before student responded.
13. Chopping-up words or quotation marks at end of line.
14. Use of English citation marks instead of German models.
15. Color combinations make text on screen difficult to read.
16. Keyboard response slow.
17. Loading time for Unit tests slow (2 minutes).
18. Shipment of product took two months.
19. Demo disk not sufficiently representative.

EVALUATION CRITERIA FOR REVIEW OF
FOREIGN LANGUAGE MICROCOMPUTER TEACHING PROGRAMS

RATING FORM for (Title of Program): Micro-Deutsch by John Russell and JoAnn Comito

Rating:

Circle the item which best reflects your judgment:

0- Insufficient Knowledge
NA- Not Applicable
NAD- Not Applicable but Desirable
1- Poor
2- Fair
3- Good
4- Excellent

CONTENT

0 NA NAD 1 2 3 (4)	1. Content is accurate.
0 NA NAD 1 2 3 (4)	2. Content is appropriate to (stated or implied) instructional intent.
0 NA NAD 1 2 3 (4)	3. Level is appropriate for intended user.
0 NA NAD 1 2 3 (4)	4. Content presents a well-rounded view of contemporary usage.

SUPPORT MATERIAL

0 NA NAD (1) 2 3 4	1. Instructor's guide is clear, comprehensive and useful.
0 NA (NAD) 1 2 3 4	2. Student's guide is clear, comprehensive and useful.

PRESENTATION

0 NA NAD (1) 2 3 4	1. Purpose of program(s) is clearly stated.
0 NA NAD (1) 2 3 4	2. Program(s) fulfill(s) the stated purpose.
0 NA NAD (1) 2 3 4	3. Content organization and presentation are methodologically sound.
0 NA NAD 1 2 3 (4)	4. Subject matter is relevant to a variety of textbook(s).
0 NA NAD 1 2 3 (4)	5. Subject matter is adaptable to a variety of textbooks(s).
0 NA NAD 1 (2) 3 4	6. Questions and expected answers are clear, not ambiguous.
0 NA NAD 1 (2) 3 4	7. Instructional quality of content: summary assessment.
0 NA NAD (1) 2 3 4	8. Individual lessons are of appropriate length.
0 (NA) NAD 1 2 3 4	9. Instructor can easily modify program.
0 (NA) NAD 1 2 3 4	10. Program with flexible content (e.g., authoring program) is powerful, flexible and suitable to a wide range of applications.

STIMULATION OF STUDENT INTEREST

0 NA NAD 1 2 (3) 4	1. Amount of information in each screen frame is appropriate.
0 NA NAD 1 2 (3) 4	2. Presentation of program is appealing.
0 NA NAD (1) 2 3 4	3. Student has mobility within program.
0 NA NAD (1) 2 3 4	4. Program employs principles of motivation.
0 NA NAD (1) 2 3 4	5. Program stimulates student creativity.

COMPUTER TECHNIQUES

0 NA NAD (1) 2 3 4	1. Capability of computer is exploited.
0 NA NAD 1 2 3 (4)	2. Use of computer is a suitable medium.
0 NA NAD 1 (2) 3 4	3. Instructor can easily operate program.
0 (NA) NAD 1 2 3 4	4. Instructor can easily operate program with record keeping feature.
0 (NA) NAD 1 2 3 4	5. Instructor can easily edit program without altering program code.
(0) NA NAD 1 2 3 4	6. Instructor can easily edit program by altering program code.
0 NA NAD 1 (2) 3 4	7. Student can easily operate program.
0 NA NAD (1) 2 3 4	8. Student can easily exit program without losing work done.
0 NA NAD (1) 2 3 4	9. Student can easily go to on-screen help from any part and back to the same point of instruction.
0 NA NAD (1) 2 3 4	10. Student can easily bypass on-screen instruction if desired.
0 NA (NAD) 1 2 3 4	11. Student can easily save lessons or parts of lessons on printout.
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COMPUTER TECHNIQUES

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0 NA NAD 1 2 3 (4)	22. Typable accent marks or alternatives are easy to manipulate.
0 NA NAD 1 2 3 (4)	23. Typable accent marks or alternatives are appropriate.
0 NA NAD 1 2 3 (4)	24. Upper and lower case differentiation is easy to manipulate.
0 NA NAD 1 (2) 3 4	25. Program is technically reliable.

PLEASE COMMENT FREELY ABOUT YOUR ASSESSMENT OF THIS MATERIAL:

1. Is it reasonable to use the computer to deliver this instruction?

   ✓ Yes ___ No ___ Not Sure

   How else could this instruction be delivered more effectively?

2. Do you recommend the use of this program?

   ___ Strongly recommend
   ___ Recommend
   ✓ Recommend subject to improvements
   ___ Do not recommend

   Why? Please, identify strengths and weaknesses.

3. What improvements do you recommend to the substance, program or documentation of this package, if any?

Notes

[1] For additional reviews and commentary for this program see: Gerald R. Culley and George W. Mulford, Foreign Language Teaching Programs for Microcomputers: A Volume of Reviews (Dover, Delaware: University of Delaware, 1983), pp. 44-47.

VOICE RECOGNITION: THE VBLS™/VOICE-BASED LEARNING SYSTEM

OVERALL EVALUATION

Only a preliminary evaluation is possible at present because our applications of the Scott system is experimental and undergoing testing.

LEVEL

Any age

SYSTEM REQUIREMENTS

Apple II, Apple II Plus,

48K
Two disk drives

PRICE

Hardware plus Software
$900.00

SOURCE

Scott Instruments
4444 Willow Springs Dr.
Denton, TX 76201
Tel. (817) 387-9514

This tutorial system presents an instructional vehicle to assist students who wish to perfect their pronunciation skills. The system incorporates a microcomputer, a microphone, a video display, a voice entry terminal and appropriate software. The strategy of using this system involves the following steps:

1. Physically accessing the microcomputer.
2. Putting on a head-worn microphone.

3. Visually discriminating and deciding upon displayed instructions.
4. Translating a visual/verbal command to a word or phrase into a vocal rendition of the same. For instance, the student sees the word "dort" and must be able to invent a possible pronunciation for it if not listening to a cassette taped pattern.
5. Integrating the visual cue, the pronounced word(s), and newly displayed information/ question. The learner must understand, for instance, that a pronunciation of "dort" is poorly pronounced if it registers between 0-500 as compared to a registry between 700-1000 on the video bar graph.
6. Repeating the word(s) as an oral response to a graphic message.
7. Continuing this tutorial loop until the question sequence is completed.
8. Deciding to continue, repeat or end the study session at which time the physical termination of the microcomputer system, removing the microphone and removing the disks takes place.[1]

This system focuses the student's attention to learn about a foreign language while speaking it. "Speaking while learning enables the . . . student to turn thoughts into words (as opposed to keyboard manipulations, which is the traditional CAI method)."[2]

The computer itself is able to handle a pre-programmed authoring disk including a range of pronunciation patterns which the student is attempting to imitate. A bar graph with increments from 1-1000 measures the goodness-of-fit between speech patterns of words or short phrases and pre-stored patterns. The student can interpret the quality of the response by knowing that when the pronunciation of a word registers anywhere under approximately 700, more practice is needed. Any pronunciation above 700 and as close to 1000 as possible, sounds good.

Finding another method of providing pronunciation practice for foreign language learners where they have instant tangible pronunciation feedback besides the available conventional tape recorded confirmations, promises a genuinely useful and exciting learning experience. We, therefore, conducted a preliminary experiment with the Department of Instructional Design in order to measure limitations and determine functional improvements to the pronunciation tutorial system.

Since the Voice-Based Learning System can distinguish between a variation of sound patterns,

I experimented with some typical pronunciation problems an English speaker often experiences when trying to speak German. An English speaker, for example, frequently mispronounces the German "ch" as the letter "k" or "sh." Also, the German "ch" sound is often not distinguished from its similar sounding guttural "r." Long and short vowels are also often confused as well as singular and plural distinctions dependent on correct vowel pronunciation. Furthermore, the velarized American "l" is also easily carried over into German lateral "l" pronunciation. There are of course many more such pronunciation hurdles, but for this experiment these sufficed to define the choices. I began working with a list of minimal pairs--that is a side-by-side pairing of words which are representative of these typical mistakes. Such pairs enable the student to focus on only the particular problem. For instance, the sound which American students almost universally substitute for "ch" is "k." To emphasize the fact that "k" and "ch" are contrasting phonemes and to give practice in

distinguishing them, pairs of word confrontations with only "ch" and "k" sounds such as in "Nacht: Nackt" may be drilled to eliminate the problem.[3] These same pairs of isolated words were then placed into a context, so that the skill level could be expanded past a rote drill procedure, thereby resembling a more real-world-like application.

In preparation for this experiment, I "recorded" a variety of eight pronunciation patterns with varying loudness and different pitches on an authoring disk. With this variety of pronunciation patterns it was hoped that the correct attempts of different students could be matched over a fairly large range. That is to say, with a variety of human speakers we hoped that the recognition algorithms would be sensitive enough to measure correct pronunciation and insensitive enough to ignore overall variations in amplitude and pitch.

For the actual experiment, we used two intermediate students, girls, age 12 and 13. We taped their initial pronunciation of commonly mispronounced German words, concentrating on pronunciation problems involving: "ch/k," "ch/r," "ch/sh," singular/plural, long/short vowels and English "l"/German "l."

The students were initially recorded reading only the minimal pairs and then reading the same pairs woven into an arbitrary context. Following this, they worked with the computer to improve their pronunciation. The computer had the author disk in one drive, providing the signals for correct pronunciation, and the student disk in the second drive, responding with the feedback of the graphic 0-1000 scale readings. Each student practiced 3/4 of an hour while being measured by the computer. They tried repeatedly to improve any score registering below 700.

After this practice session, their pronunciations were recorded once more while reading the same original pairs of words in and out of context. Their pronunciation, which was marginal to begin with, had markedly improved. The students were quite eager to learn of their own improvement and really enjoyed practicing the same item over and over. They felt extremely competitive toward themselves and did not realize they were working so hard. The work paid off because their German pronunciation involving notorious pitfalls had improved in less

than an hour's practice.

However, there are some aspects to consider that would undoubtedly make the experience even more worthwhile. From time to time, while the students were competing against themselves trying to perfect their score, actually forgetting they were doing ordinary drill and practice routines, they were confused when what they thought was a good imitation of the original pattern was rejected. It is important to keep in mind that the students heard the pattern only once and then experimented many times with what they thought they must say, strictly from their memory.

The students' confusion may be traced to two causes. First, the voice system's algorithm was not sensitive enough to distinguish between the expected vowel nuances such as are found in the "a" and the "ä," the "o" and the "ö" and the "u" and the "ü." The system, however, did well in distinguishing consonant differences. Second, the students themselves did not know as time went on what exactly they were aiming for. Therefore, the next time we will have to provide a tape they can

play back during practice.

This experiment leads me to the following conclusions: because the learners tend to forget what sounds they are imitating, a taped audio model should accompany the pronunciation drill. Then the students would be able to hear the model as well as speak their pronunciation. Furthermore, more subtle distinctions of sound patterns need to be established, together with an input range providing pattern models with and for male, female, adult, youth and child voices. It is important to accomodate male and female voice differences because my subjects were considerably younger than I and certainly were experiencing less than 1000 because my voice sounds more resonant, and theirs much lighter. A man's voice could not be matched with mine. A male subject would think he had mispronounced a word, which, in fact he had not. In addition to that, native variations of language pronunciation patterns need als, be anticipated by taping and programming pronunciation patterns from as many possibilities with acceptable standards as feasible. This pattern range is important because a native speaker should

be able to use this system also and be able to match his response and not be rejected. In other words, with a large enough range of pronunciation inputs, a neutral and correct pronunciation should be attainable through the use of the voice-based learning computer.

Our Instructional Design Division is presently developing the applicability of the Scott system to language learning tasks of this type. A second stage of the experiment takes place in the latter part of May 1983 with some of my recommendations already in use. I am eager to see this effective new tool reach people all over the world who are trying to learn to speak each other's language.

Here is a list of words which were used for the initial experiment:

OUT OF CONTEXT

NACHT	/ NACKT	MANCHER	/ MANSCHER
BUCH	/ BUK	KIRCHE	/ KIRSCHE
SCHLUCHT	/ SCHLUCKT		
ZUCHT	/ ZUCKT	MACHT	/ MACHTE
TAUCHT	/ TAUGT	NACHT	/ NACHTE
ROCH	/ ROCK	BUCH	/ BUCHER
DOCHT	/ DORT	NEHMEN	/ NENNEN
SUCHT	/ SURRT	DEN	/ DENN
		WEN	/ WENN
BUILD	/ BILD		
HELL	/ HELL		

TAUCHEN / TAUSCHEN
WACHEN / WASCHEN
NACHEN / NASCHEN
BAUCH / BAUSCH

IN CONTEXT

DIE NACHT IST NICHT NACKT. DAS BUCH BUK IN DER SCHLUCHT. ER SCHLUCKT UND ER ROCH DEN ROCK. DIE ZUCHT IST GUT. ER ZUCKT UND TAUCHT BIS ER TAUGT. MAN SOLL TAUCHEN UND TAUSCHEN UND WACHEN UND WASCHEN. IM NACHEN IST GUT NASCHEN. DER BAUCH HAT DEN BAUSCH. DOCH DORT SUCHT ER BIS ER SURRT. MANCHER KIRCHE GEHT ES SCHLECHT. MANSCHER IST MENSCH UND KIRSCHE IST FRUCHT. DIE MACHT DER MÄCHTE IST WIE DIE NACHT DER NÄCHTE UND DAS BUCH DER BÜCHER. ER SOLL ES NEHMEN UND NICHT NENNEN, DENN WEN ER NENNT, IST WICHTIG. WENN ER WILL. TO BUILD EIN BILD. IN THE HELL IST ES NICHT HELL. DOCHT IST ALT.

Notes

[1] Wagers-Horn, The VBLS™/Voice-Based Learning System (Denton, Texas: Scott Instruments Corporation Publication, 1982), p. 7.

[2] Wagers-Horn, p. 8.

[3] William G. Moulton, The Sounds of English and German (Chicago: The University of Chicago Press, 1962), p. 28.

RECOMMENDATIONS

Examination of these twelve German programs has called attention to major shortcomings in the presently available software in this field. But it also sets in relief some of the things that need to be considered by both purchasers and authors to assure improved foreign language software in the future. In the present chapter I would like to step back somewhat from the specifics of the foregoing critiques and draw inferences of a more general nature--and make recommendations--about the kinds of improvements that are needed. For convenience I will follow the format of my evaluation form, stressing the areas where improvements are needed most. The five general categories, once again, are: content, support materials, presentation of content, motivational features of interaction and feedback, and computer techniques. The discussion will conclude with specific recommendations in related areas. These recommendations deal partly with the stimulation and maintenance of student interest and

partly with the roles of teachers, their textbook(s) and the importance of strategies for integration with other classroom activities.

All programs require, at the very least, accuracy of content. The foreign language data used should, therefore, not contain outdated information, orthographical errors, factual mistakes and the like. (See individual content evaluations and Appendix A.) Such inaccuracies are best avoided by having language expert(s) involved in designing, proofing and field-testing the program content. But the content must also be appropriately suited to the intended age level. Certainly the organization and presentation must be clear and well structured. Like many things, this is easier said than done. But my experience with these programs suggests several ways to organize the content more effectively. Careful attention to gradually increasing the level of difficulty of the subject matter within <u>each</u> program module (e.g., testing and practice exercises) is one; another is systematic progression into more complex language applications (e.g., generalizing and applying the principles learned in testing and practice), again within <u>each</u> program module.

Support materials include many different types of information and come typically as the printed material accompanying the program. Several basic features are indispensable to a good program: the teacher needs reliable and readily accessible information on how to run and implement the program, perhaps duplication of the basic menus and screen formats and supplemental student materials; the student needs clear instructions on how to operate the system. Duplication might involve the entire basic stock of vocabulary and grammatical rules, or subsets thereof, so that teachers can anticipate which items will be unfamiliar and respond accordingly, perhaps by supplying their students with lists of the new words. The information for the instructor must, of course, be clearly written and well-organized, keeping in mind that many instructors have little experience with CAI and may still be rather skeptical of it. Even if programs include documentation within the software and claim to be "self-contained," the printed duplication of at least pertinent parts of the screen content helps the instructor in preparation and design of course

work in much the same manner that traditional tables of contents or instructor's manuals are provided as guidelines for the teacher. Without such written documentation, the teacher needs constant access to a computer while planning the course work. Good documentation might also include supplementary materials for student use after the interaction with the computer. Exercises such as worksheets, puzzles and creative follow-up activities are important for written reinforcement of the acquired skills following the computer interaction. The PLATO Vocabulary Builder includes superior documentation and goes well beyond my basic suggestions. It even provides classroom logistics, suggestions for lesson flow and teaching strategies. In this regard PLATO could serve as a model for other programs, even those aimed at students on a more advanced level.

Support materials can play an important role in hindering or fostering a program's success. Inadequate documentation may even conceal essential operating procedures or ingenious features of otherwise fine packages. One example is the "ZES"

Definite Article. The operating instructions proved so poor that on first encounter with the program I unwittingly erased most of the content. A well-written manual would most likely have prevented that. Not only are good support materials essential for a program's success, but they could also provide helpful hints about incorporating or adapting a computer program to an independent text.

Content presentation, another important aspect, focuses on how the grammatical definitions, exercises and general information on the subject matter are presented. The content organization and presentation of Micro-Deutsch are excellent in this regard. But unfortunately this is not clearly brought out in the program itself, only in the manual, which resembles the table of contents of an introductory language text. This points up a general problem: most programs merely list a menu that provides little insight into content or presentation structure. It also points to a recommendation: that considerable thought go into both organizing the language content and presenting menus which suggest the organization from the start.

The purpose, goals and objectives of a program are best stated explicitly in the support literature rather than implied. This information should include precisely formulated general and specific instructional goals. If a program has obvious limitations, they too ought to be communicated. For example, if the program offers only a certain kind of feedback (e.g., "right" or "wrong" responses)--rather than going into subroutines that help students find the answer or explain their errors--this should be clearly stated in the documentation (and preferably in the advertising).

This point leads naturally into issues of instructional quality. It is essential that programs be empirically tested in order to verify both their capabilities and their limitations whether or not the documentation is clear on these points. Ideally, a teacher should have a few trial runs, preferably with students at the keyboard. In most cases it will be quickly apparent whether goals and actual practice match. It is even more important that program producers field-test their materials thoroughly with the type of students they are

hoping to reach. As a matter of fact, the International Council for Computers in Education (ICCE) suggests that the evaluation of a product should take approximately two months--my preference would be at least one semester if not two--and the ICCE concedes that some materials,

> because of complexity or the amount of curriculum covered warrant a more extensive evaluation. Activities in this category would be pre- and post-testing, or detailed observation of student use of the package.1

One obvious way of testing these programs before marketing them would be to send out complimentary test packages to selected educational institutions for testing and evaluation. Presumably all or most of the programs evaluated above underwent some such testing. But none gives specific credit to indicate this.

When examining the commercially prepared packages with fixed content, the instructor may find the choice of vocabulary or level of difficulty unsuited to the students' training or goals. It would be particularly helpful to teachers if the

documentation gave specific information about such matters, ideally a complete vocabulary listing (as is available for the Bartorillos' Language Teacher Series or the PLATO Vocabulary Builder). The choice and presentation of vocabulary items require considerable planning. Several considerations need to be stressed. The program must not reject alternative answers that are also correct. Vocabulary should generally be grouped by level of difficulty. There should not be more than 10 or 15 items per drill (too many items tend to tire students; short modules tend to encourage them to proceed further). Vocabulary items should generally be grouped by similarity of content. In any case, contextual clues should be provided, so that choices of possible responses are clearly limited to the ones the program expects. Or, alternatively, the desired response could be elicited by providing a list of the responses not desired. For example, if the German equivalent of "marriage" were requested, providing a string of unacceptable synonyms such as "Heirat," "Hochzeit," "Verehelichung," "Vermählung" and "Trauung" would allow the student to home in on

"Ehe" as the desired answer. In this situation, the students then must look for only one expected answer, while at the same time they are also reviewing and learning synonyms.

By the same token, if a multiple-choice routine is used, the choice of answers must not include two equally appropriate alternatives as, for example, in the Language Teacher Series. The problems posed for students by synonyms are bad enough without being compounded by multiple-choice drills in which more than one answer is correct. This can only demoralize students, and in extreme cases, bring them to doubt themselves (see footnote 1 to the discussion of the Language Teacher Series). The computer is capable of handling these problems, if it is well programmed. If a program offers only laundry-list-type vocabulary drills, the likely result will be monotony and student discouragement. In any case, such drill routines reduce the computer to an electronic page reader reciting primitive vocabulary lists, a format long ago overcome by textbooks.

Another consideration is the avoidance of archaic usage (see, again, the critique of the Language Teacher Series) and the selection of vocabulary with applications that prove useful to the students in domains and situations beyond the subject area of the package. It will be hard to determine exactly which expressions will prove useful. But one readily available strategy might be to rely on the standard listings of most frequently used words, like Alan J. Pfeffer's Grunddeutsch (Tübingen, Verlag Gunter Narr, 1975). Reliance on Pfeffer would be one means of assuring "usefulness." One might also provide regional alternatives with items such as "turkey," "orange" or "trash can" (see the critique of the Language Teacher Series).

Following this matter a step further, I would suggest that programs be written to address, carefully and thoroughly, specific areas of difficulty in learning vocabulary and grammar. It would be a great asset to be able to send students to the computer for work with particular problems, like use of the auxiliary verbs "sein" and "haben" ("to be" and "to have"), and the traditionally

elusive "two-way" prepositions and adjective endings. Such tutorials could be used in conjunction with any textbook and would fill a great need.

Another important issue is a program's adaptability to a given textbook. As mentioned earlier, good support materials will address issues of adaptability. If this is not the case, a teacher must give the matter much thought and plot out a strategy for incorporating computer programs to assure that they articulate well with the textbook(s) in use.

Computer techniques dealing with interaction and feedback constitutes another important area in need of improvement. Here, as in other areas, there is latitude for personal taste. Students need to be addressed effectively and tactfully. My general preference among the programs reviewed was the "talkative," personal tone of Apfeldeutsch. The conversational, even chatty "personality" of the computer in this program was a redeeming feature of some of the more tedious learning routines. The student's creativity is also challenged by active involvement. Clearly, when students have

little or no control, the potential for frustration is high. Students should have the feeling at all times that they have control over the computer by having meaningful choices about moving around in the program and asking it to do things (like provide help). That is, the relationship between student and computer should stress student activity rather than passivity. The potential for interaction of this kind is one of the many notable strengths of Author I. Among the programs with fixed content, the PLATO Vocabulary Builder and Apfeldeutsch get better than average marks in this category.

The other side of this issue is the appropriateness of the feedback the program gives the student. Unfortunately, this is a major weakness of most of the programs reviewed, because very few fixed-content programs give more than a "right" or "wrong" response. They do not seem to be based on careful prior consideration of typical errors--whether that consideration stems from one teacher's classroom experience or a systematically conducted error analysis. As a matter of fact, prior error analysis in which problem awareness precedes programming of

content, should point out which problems a program needs to focus on and may thus itself suggest the outlines of a useful program. Presenting the content in a way that steers students away from typical errors, for example, may be an innovation which the computer could handle particularly well. A specific instance may help clarify some of the ways a computer program can be especially helpful here. Let us say that experience and/or systematic analysis has shown that 93% of college students in first semester German have problems with the use of "werden"--whether as an active independent verb (meaning "to become"), an auxiliary marking future tense or an auxiliary marking passive voice. The reasons for the students' difficulty with this verb may well be complex. Perhaps they do not realize the difference between an auxiliary and a main verb; perhaps they do not know what a past participle or infinitive is; perhaps they just do not know the conceptual difference between active and passive voice. Whatever the reasons may be, specific feedback for all three mistakes must be designed. Even further, programs could be designed to identify the

nature of the problem and branch to modules or other programs that would address not only the problem, but also its cause(s).

Because the most distinctive feature of CAI is the capacity for meaningful feedback, it is this aspect of programming that requires most attention. The program must be able to react appropriately. If the developer can anticipate which errors students are likely to make and why they will make them, instructional strategies can be built into the program that will lead students to find the correct answer rather than just give them the solution. Feedback to students should rarely be a simple "wrong." Students need to know why an answer is incorrect, and a simple "wrong" rarely tells them that. Of course, if live tutors are unavailable, and the textbook has no answer key, then a routine that responds with only "right" or "wrong" will be more responsive than a textbook. And for such pitiful situations, a minimum-feedback program like Flashcard may be quite acceptable. But microcomputers have the capability to provide much more than this minimum. Why not take advantage of it?

There are similarities between the process of providing good feedback to students and the process a teacher goes through when designing extra work sheets to illustrate grammatical concepts that are difficult for students to grasp. The computer, however, offers some advantages. For one, it saves the teacher time. Once programmed and saved, a computer program is accessible to each student one on one, like a private tutor. The teacher's time can be turned to other concerns. Moreover, the computer will not tire and is--at least potentially--more patient. Our performance as teachers may fluctuate. In praising the advantages of computer programs for certain educational tasks I do not mean to take anything away from teachers. Computer programs cannot replace the teacher's effectiveness in those areas in which creative, context-sensitive flexibility and attention to the student as a person are called for. But it is precisely here that designing lessons for student use on a computer presents its greatest challenge to the most effective teachers among us--the challenge to call on our experience to create programs for our students that

will provide the kind of responses that we would. In this sense the programs should always be one step ahead of the student's responses. If the "clairvoyance" of the experienced teacher can be programmed into a computer lesson, and the lesson carefully designed to assure that the student can benefit optimally from the feedback the teacher has introduced, the program becomes, in a real sense, an extension of the teacher's personality and commitment to the student.

Let us follow this line of thinking a bit further and examine some of the ways a computer program can best serve as the teacher's assistant. In telling a student <u>why</u> an answer is wrong, the program should ideally assess the <u>concept</u> behind the question, not merely the form of the answer. That is to say, the feedback routine should ideally be able to differentiate between errors of substance and merely mechanical mistakes (typos, extra spaces, etc.). Let us recall two examples. The <u>Language Teacher Series</u> marked some of my answers as "incorrect," but they were actually correct except that I had inadvertently introduced an extra space before typing the word(s). I would recommend that programs

of this type be designed to ignore this kind of mechanical error altogether or give special directions to students to avoid extra blanks. Considerably preferable in this regard is the method employed by the Dasher program, which, by blinking the letter(s) involved in the deviation, calls attention to the nature of the error, whether substantive or merely mechanical. Additionally, as we have seen, this program's focus on individual letters rather than entire words also provides very effective encouragement. The student is, in effect, led to think, "Gee, I've gotten everything right except one letter" and continues remodeling the answer until it is right.

Another step in this direction of more informative feedback is to remediate by providing clues. Several programs reviewed here do this to some degree, but more development is needed. Some programs, for example, could include less data (vocabulary items, etc.), and the extra space could be applied toward more ambitious explanatory routines.

In addition to feedback, important student motivators are re-test options to foster mastery

of specific items; the ability to move around within the program (preferably without losing work done); easy control over the rate of presentation of display material so that individual students can read and absorb the information at their own rate; the option to save work done on either paper, tape or disks. Most of the programs were rather quick to remove instructional input from the screen; this was frustrating if, for example, I had to go back to initial instructions because I could not remember what I was asked to do. If I did go back to look, I could no longer check what I had typed in. Micro-Learningware's Packages I-III were especially hurried in removing instructions and student input. The Language Teacher Series, on the other hand, provides print options for tests, which is a welcome means of providing students with a copy of their work. The "ZES Authoring System" (to judge from the "ZES" Definite Article) even promotes the storage of student performances on disks. The whole issue of saving student work needs more exploration, because the computer's potential to do so is a very promising aspect of CAI.

Other areas of concern also dealing with stimulation of student interest involve effective use of the audio and visual capabilities of the various microcomputers. The audio messages (typically beeps for errors or correct responses) should not disturb other students nearby or embarass learners who may feel uncomfortable about audio messages publicizing their incorrect answers. This feature of rather loud buzzes for wrong answers struck me as particularly unhelpful in The Linguist. Even the repeated correct buzzes became monotonous and instructionally ineffective after a while, and no longer served to stimulate student interest. The optional and volume-controlled sound track in the PLATO Vocabulary Builder is commendable because it leaves up to the individual user whether to engage the sound or turn it down or even off, if so desired. In any case, the new lightweight headphones provide a reasonable technical solution, but most of the microcomputers do not have an earphone jack.

Graphics, too, should be employed judiciously so as to enhance rather than distract, or detract, from the instructional process. Game-like formats,

which often incorporate graphic stimulation, tend to be more suitable for younger audiences but need not be totally absent in programs intended for more advanced levels. If done carefully, limited parts of some drill routines can perhaps be presented "playfully" to avoid monotony. A quick Hangperson game in the manner of the PLATO Vocabulary Builder may be a welcome interruption to many a program more conventionally designed. Graphics need not, of course, be limited only to games. Screen designs can effectively employ graphics such as framing, underlining, blinking asterisks, cursors or question marks and the like for emphasis or to direct the user's attention to key features of the display, e.g., the question. None of the programs reviewed goes very far in exploiting the computer's potential for balanced use of sound, graphics and animation.

Another means of stimulating and maintaining student interest is presenting material in more than one format. Granted, it is reassuring--and time- and energy-saving--to have a familiar format for screens within a lesson, yet the students should be able to opt for conventional straighforward drill

routines or game-like exercises, or tutorial sections, etc., all of which could be made available in any one package, as alternative or mutually reinforcing ways of covering the same material. As a matter of fact, it may not be a bad idea to switch formats on the basis of student performance. The programs reviewed are either entirely game-like or entirely conventional, both of which tend to become dull after prolonged and exclusive use.

I can also envision appropriate uses for both still and animated graphics, not for the sake of play, but as a means of presenting concepts that are difficult to visualize otherwise. An example for such a use in teaching German are the notoriously challenging prepositions especially, when the English translations of different German prepositions, distinguishable by applications only, are identical. Such differentiating factors often involve subtle distinctions regarding proximity in place and proximity in time; they also apply to many purely idiomatic phrases. Students have difficulties even envisioning these distinctions, let alone remembering them. Animated illustrations offer a new tool for

learning, reviewing and retaining these complex subtleties of German grammar and vocabulary.

Foreign languages typically use character sets with special letters and accent marks. As the specific evaluations have shown, all the programs examined are designed to run on microcomputers with standard American keyboards and therefore need to rely on extra keyboard manipulations or other strategies to deal with non-standard characters and accents. Older programs such as Micro-Learningware's Packages I, II, III, originally written for the TRS-80 Model I, use an asterisk to denote umlauts and the sign "@" for "ß." (These umlauts and "ß" are available in the enhanced character generator resident in the Model III [and also the new Model 4], but the Micro-Learningware packages were not redesigned to take advantage of them. Author I, however, was and does.) Teachers are in some disagreement as to the effectiveness of these alternatives. I, for one, find them distracting and prefer ae, oe, ue and the double "ss." But having seen programs that require additional keyboard steps but do, in the end, produce the actual symbols ä, ö, ü and ß, I would stress the

importance of the actual presentation of accent symbols, even at the price of extra keyboard manipulation to display them on the screen if it is something equivalent to: control a → ä, control u → ü; if it is more complicated, I think I prefer the extra vowel/consonant.

At this point I would like to conclude the discussion of recommendations with items that go beyond the specific entries in the rating sheet. The first concerns integrating the design of textbooks, computer programs and classroom activities. Such integration can be expected to occur in basically three ways: integration of pre-packaged materials by program author and publisher; the integration achieved when a teacher adapts commercial programs to a textbook; or the integration for which authoring systems are specifically designed, systems that require the teacher to add the desired content. Apfeldeutsch designed around the textbook Grundkurs Deutsch, is the only product I have seen that includes some integration of the first type. But it is still far from a complete "package," which should ideally include greater integration of text with program

(the text was written independently of the program), tapes for speaking skills (Apfeldeutsch I am told has tapes), workbooks for writing practice and supplemental CAI for reinforcement.

My criticism of the limitations of the programs analyzed is of course not to be viewed as a critique of the potential of CAI. Quite the contrary. Even these programs, with all their shortcomings, confirm the view that CAI on microcomputers is an asset with immense potential--a potential that can only increase as the hardware becomes more powerful. What the limitations of the present programs do point up, however, is the need for teachers to become more involved in the development of software for teaching foreign languages. They also indicate that programmers need to solicit advice from good writers for clearly written documentation and from innovative and talented language teachers, who, though they may lack technical familiarity with the computer, know the language and how to teach it. In a word, they call for a talent-pool. It is my hope that the present study will foster such teamwork by calling attention to some of the deficiencies to be avoided.

It is my further hope that detailed consideration of the strengths of these programs will open up new perspectives by pointing to the features that need to be developed further. Far from being a substitute for competent instructors, CAI is a new and extremely powerful means for competent teachers to extend their skills, reach more students in a more individual, even "personal" way than is often possible in the classroom drills. The time saved can then be used for higher level communication with students in the prospective language.

[1] Evaluator's Guide for Microcomputer-Based Instructional Packages (Eugene, Oregon: International Council for Computers in Education, 1982), p. 8.

APPENDICES

APPENDIX A.

I. TECHNICAL FLAWS:

1. LANGUAGE TEACHER SERIES: GERMAN I,II
by Cindy and Andrew Bartorillo

In the vocabulary drill the word GRAUCHEN appeared several times. There is no such word. It should read BRAUCHEN, "to need."

I also experienced what may be a very simple technical problems but, nevertheless, discouraging to the user. When I answered correctly, my answers were rejected. The items involved were TEACHER, TROUSERS and DAY. The answers DER LEHRER, DIE HOSE and DER TAG were dismissed as incorrect but then confirmed on the screen as the answer the program expected. I re-checked to see if I had an extra space or a period or something else to cause this. The problem persisted.

2. THE DEFINITE ARTICLE: "ZES Courseware"

Proofreading could have been better, e.g., "SENTANCE, DAS KIND SIEHT DAS WAGEN."

3. GERMAN VOCABULARY BUILDER: PLATO Educational Software

In the vocabulary list for peronal words appears to be a misprint both on the screen

and in the manual in an otherwise well-edited program:
1. ANKLE = DER ENKEL

4. GERMAN-PACKAGES I,II,III: Micro-Learningware

The word SONNTAG is misspelled and erroneously reads "SONTAG."

In the English ⟶ German drill the correctly given answer for "DEPRESSING" was corrected from "DEPRIMIEREND" to "DEPRIMIEREND" again. Both versions are identical.

APPENDIX A.

II. ACCENT MARK MANIPULATION:

1. LANGUAGE TEACHER SERIES: GERMAN I,II
by Cindy and Andrew Bartorillo

The program for the TRS-80 Models I and III is not capable to produce umlauts or "ß" although the Model III is able to handle the special character set.

The program for the Atari 400/800 has its own character set. This makes the display of the diacritical marks over vowels, the German "ß" and Spanish, French and Italian accent marks possible. The special characters are implemented as the "control" (CTRL) character of either the letter they are assigned to or another letter nearby pn the keyboard. For example, if you wish to display a lower case "a" with the diacritical marks above it, you are to press the CTRL key followed by the "A" key. Here is a list of the German special characters:

CTRL A = ä
CTRL O = ö
CTRL U = ü
CTRL S = ß

I tried CTRL, Shift "A" in order to get upper case umlauts but to no avail.

Note:

Since the average line printer is unable

EVALUATION CRITERIA FOR REVIEW OF FOREIGN LANGUAGE MICROCOMPUTER TEACHING PROGRAMS

RATING FORM for (Title of Program):_____

Rating:

Circle the item which best reflects your judgment:

0-	Insufficient Knowledge
NA-	Not Applicable
NAD-	Not Applicable but Desirable
1-	Poor
2-	Fair
3-	Good
4-	Excellent

CONTENT

0 NA NAD 1 2 3 4	1. Content is accurate.
0 NA NAD 1 2 3 4	2. Content is appropriate to (stated or implied) instructional intent.
0 NA NAD 1 2 3 4	3. Level is appropriate for intended user.
0 NA NAD 1 2 3 4	4. Content presents a well-rounded view of contemporary usage.

SUPPORT MATERIAL

0 NA NAD 1 2 3 4	1. Instructor's guide is clear, comprehensive and useful.
0 NA NAD 1 2 3 4	2. Student's guide is clear, comprehensive and useful.

PRESENTATION

0 NA NAD 1 2 3 4	1. Purpose of program(s) is clearly stated.
0 NA NAD 1 2 3 4	2. Program(s) fulfill(s) the stated purpose.
0 NA NAD 1 2 3 4	3. Content organization and presentation are methodologically sound.
0 NA NAD 1 2 3 4	4. Subject matter is relevant to a variety of textbook(s).
0 NA NAD 1 2 3 4	5. Subject matter is adaptable to a variety of textbooks(s).
0 NA NAD 1 2 3 4	6. Questions and expected answers are clear, not ambiguous.
0 NA NAD 1 2 3 4	7. Instructional quality of content: summary assessment.
0 NA NAD 1 2 3 4	8. Individual lessons are of appropriate length.
0 NA NAD 1 2 3 4	9. Instructor can easily modify program.
0 NA NAD 1 2 3 4	10. Program with flexible content (e.g., authoring program) is powerful, flexible and suitable to a wide range of applications.

STIMULATION OF STUDENT INTEREST

0 NA NAD 1 2 3 4	1. Amount of information in each screen frame is appropriate.
0 NA NAD 1 2 3 4	2. Presentation of program is appealing.
0 NA NAD 1 2 3 4	3. Student has mobility within program.
0 NA NAD 1 2 3 4	4. Program employs principles of motivation.
0 NA NAD 1 2 3 4	5. Program stimulates student creativity.

COMPUTER TECHNIQUES

0 NA NAD 1 2 3 4	1. Capability of computer is exploited.
0 NA NAD 1 2 3 4	2. Use of computer is a suitable medium.
0 NA NAD 1 2 3 4	3. Instructor can easily operate program.
0 NA NAD 1 2 3 4	4. Instructor can easily operate program with record keeping feature.
0 NA NAD 1 2 3 4	5. Instructor can easily edit program without altering program code.
0 NA NAD 1 2 3 4	6. Instructor can easily edit program by altering program code.
0 NA NAD 1 2 3 4	7. Student can easily operate program.
0 NA NAD 1 2 3 4	8. Student can easily exit program without losing work done.
0 NA NAD 1 2 3 4	9. Student can easily go to on-screen help from any part and back to the same point of instruction.
0 NA NAD 1 2 3 4	10. Student can easily bypass on-screen instruction if desired.
0 NA NAD 1 2 3 4	11. Student can easily save lessons or parts of lessons on printout.
0 NA NAD 1 2 3 4	12. Student can easily save lessons or parts of lessons on disk.
0 NA NAD 1 2 3 4	13. Feedback provides error analysis and correction/ explanation.
0 NA NAD 1 2 3 4	14. Feedback differentiates substantive from mechanical mistakes (e.g., typos).

COMPUTER TECHNIQUES

0 NA NAD 1 2 3 4	15. Feedback is adequately timed.
0 NA NAD 1 2 3 4	16. Feedback frequency is appropriate.
0 NA NAD 1 2 3 4	17. Presentation of format is appropriate.
0 NA NAD 1 2 3 4	18. Appropriate use of color.
0 NA NAD 1 2 3 4	19. Appropriate use if sound.
0 NA NAD 1 2 3 4	20. Appropriate use of graphics.
0 NA NAD 1 2 3 4	21. Appropriate use of animation.
0 NA NAD 1 2 3 4	22. Typable accent marks or alternatives are easy to manipulate.
0 NA NAD 1 2 3 4	23. Typable accent marks or alternatives are appropriate.
0 NA NAD 1 2 3 4	24. Upper and lower case differentiation is easy to manipulate.
0 NA NAD 1 2 3 4	25. Program is technically reliable.

PLEASE COMMENT FREELY ABOUT YOUR ASSESSMENT OF THIS MATERIAL:

1. Is it reasonable to use the computer to deliver this instruction?

   ____ Yes ____ No ____ Not Sure

   How else could this instruction be delivered more effectively?

2. Do you recommend the use of this program?

   ___ Strongly recommend
   ___ Recommend
   ___ Recommend subject to improvements
   ___ Do not recommend

   Why? Please, identify strengths and weaknesses.

3. What improvements do you recommend to the substance, program or documentation of this package, if any?

APPENDIX B.

Note:

I recommend that rating sheets be adopted that analyze programs feature by feature. Many evaluations deal only in generalities about the enjoyment and usefulness of a program. When more specific questions are posed, they often do not address the specific features of greatest concern to foreign language teachers. Clearly the quality of an evaluation depends to a considerable degree on asking the right questions for the intended users. In developing my rating sheet, I sought to alleviate some of these problems. The effort led to both general and specific questions to be raised in evaluating foreign language software.

APPENDIX C.

G L O S S A R Y

Animation — The process of producing a sequence of graphic images that convey the illusion of motion.

Arrow (→) — Editing key used to move the cursor to the right or up in the Atari programs.

Authoring System — A systematic procedure for generating computer programs that do not require the author to be a programmer.

Backarrow (←) — Editing key used to move the cursor to the left or down in the Atari programs.

"Booting" the Disk — Jargon for restarting the computer using the disk in the drive unit.

Control (CTRL) Key — Special keyboard character used to control various functions. Works as an alternate shift key.

Cursor — Symbol used to indicate where the next character to be input or output will be displayed on the screen; a locator.

Disk (Diskette, Floppy Disk) — A disc of plastic film coated with magnetic oxides and encased in a rectangular sleeve. Used to store digital information. One disk may hold between 80K to 630K bytes.

DOS — Acronym for Disk Operating System; an operating system which includes the capability of controlling and

coordinating the functions of a disk drive within a computer system.

Drill and Practice
: Computer-assisted instructional term used to describe questions, answer and review strategy; answers are often scored.

Editing
: Revising; usually associated with improving or correcting information.

Enter Key
: Special character keyboard key pressed after typing a response on the Radio Shack TRS-80 microcomputer; other computers use a "RETURN" key.

Escape (ESC) Key
: Special keyboard character key used in conjunction with a letter key to move the cursor without affecting existing text; also used in conjunction with the formation of European diacritical marks.

Frame (Screen)
: One in a series of visual displays on the screen of a computer system.

Graphics
: Refers to two-dimensional visual images; computer graphics are "drawn" by a computer (pictures, colored shapes, dots and lines).

Hardware
: The physical equipment of a computer system; examples: keyboard terminal, line printer or display screen.

Joystick
: Is a lever that allows the user to move graphic images around the screen. Could be used to allow some learning-disabled students to respond without typing.

Menu — List of available functions, displayed on the screen, with a provision for selecting one.

Microcomputer — A computer system with a microprocessor Central Processing Unit (CPU); it is usually designed for single users.

Reset Key — Pressing this special character key when not directed to do so will terminate the program in process and restart the operating system.

Return Key — Special character key pressed after typing a response on the Apple II. computers--see "ENTER" key.

Save to Disk — Store program onto a disk for future access.

Software (Programs) — Computer programs, the coded instructions that direct the operation of computer hardware.

Student Records — Functions for the teacher to examine student progress reports on the screen, print them out, and/or delete the REPORT CARD file.

System Error Messages — Information displayed on the screen to indicate a warning or "fatal" mistake.

Tutorial — CAI strategy wherein students ask or answer questions after reviewing specific materials. Tutorials also introduce, reinforce and evaluate the mastery of new concepts or rules.

(TV) Screen--CRT

A television-like device used to visually display input and output information; also called Cathode Ray Tube (CRT), monitor, video screen, display screen, television.

User

The person who is interacting with a computer system.

Note:

Adopted in part from Carin E. Horn and James L. Poirot, Computer Literacy: Problem-Solving with Computers (Austin, Texas: Sterling Swift Publishing Company, 1979), as cited by Wagers-Horn, Appendix.

APPENDIX D.

GERMAN PROGRAMS NOT EVALUATED

1. Conversational German Language Series Design
   by L.G. Alexander and Isabelle Willshaw
   Atari Personal Computing Services
   1265 Borregas
   Sunnyvale, CA 94086

   Atari
   16K
   Cassette
   $60.00

2. Der-Die-Das
   Grades 1-12
   Scholastic Software
   904 Sylvan Ave.
   Englewood Cliffs, N.Y. 07632

   PET
   8K
   Cassette
   $9.95

3. German (2 Programs)
   Tycom Associates
   68 Velma Ave.
   Pittsfield, MA 01201

   Program provides vocabulary practice. Both noun and verb vocabulary builders operate in either a passive or active mode. In the active mode, the student may choose to enter synonyms or opt for multiple choice format. The German nouns include gender and plural forms. Instant correct answers and a final score are given.

   PET
   Cassette
   $19.95

4. German 1, 2, 3, 4, 5, 6/ Schoolhouse Software
   Compu-Tations
   P.O. Box 502
   Troy, MICH 48099

   German 1, 2, 3: Elementary German programs, four each (total of 12). Regular present tense,

DER-, EIN words, game drills; Irregular past tense, future tense, game drills.
German 4, 5, 6: Intermediate German programs, four each (total of 12). Accusative case, regular past tense, game drills; Modal auxiliaries, present perfect tense, game drills.

Apple II
Disks (6)
$120.00 (Each)
$720.00 (Total)

5. German Nouns
Grades 3-6
Scholastic Software
(See #2. above)

PET
8K
Cassette
$9.95

6. German Vocabulary Drill
Powersoft Inc.
P.O. Box 157
Pitman, NJ 08071

Drill and practice for German to English translation and vice-versa. The program includes several practice files and allows the teacher or student to develop additional specific files. A score summary is presented at the end of the program, which was written by a foreign language teacher.

Apple II
48K
Disk
$24.95

7. Ist-Sind
Grades 4-6
Scholastic Software
(See #2. above)

This is a basic verb drill with a variety of practice sentences. Students select the number of sentences they want to try. Scoring shows both the number and percentage of correct answers.

PET
8K
Cassette
$9.95

APPENDIX E.

PROGRAMS FOR OTHER FOREIGN LANGUAGES

1. Alicia: Bilingual Reader
   by George Earl
   Opportunities for Learning
   8950 Lurline Ave., Dept. 26CD
   Chatsworth, CA 91311

   Word-by-word Spanish translation of Alice in Wonderland.

   SPANISH
   Apple II
   48K
   Disk
   $29.95

2. Astro Word Search
   Opportunities for Learning
   8950 Lurline Ave., Dept. 26CD
   Chatsworth, CA 91311

   Hundreds of different puzzles with hidden words in Spanish/French.

   SPANISH
   FRENCH
   Apple II
   32K
   Disk
   $8.38

3. BIPACS Structure
   Bilingual Publications & Computer Service
   33 West Walnut Street
   Long Beech, NY 11561

   Three versions for 48K, 64K, 304K all with audio device, e.g. Mountain Computer Supertalker.

   SPANISH
   FRENCH
   Apple II
   64K
   Disk
   $25.00

4. Chinese Lessons
Computer Translation, Inc.,
1455 S. State Street #3
Orem, Utah 84057

CHINESE
Apple II
48K
Disk
$26.29

5. Conversational French
Atari Personal Computing Systems
1265 Borregas
Sunnyvale, CA 94086

FRENCH
Atari
16K
Cassette
$60.00

6. DASHER Language Processor
Conduit
P.O. Box
Iowa City, IA 52244

An editor for creating foreign language drills, with a wide variety of instructor options.

GENERAL/
SPANISH
FRENCH
AND OTHER
Apple II
48K
Disk

7. Developmental Spanish Tutorial Program
by Robert Phillips

Loan copies available from author. Working Copies of new material by Robert Phillips, Miami University of Ohio, author of Practicando Español.

SPANISH
Apple II
48K
Disk

8. Foreign Language Drill I
Marck "Progressive Software"
280 Liden Ave.
Branford, CT 06405

GENERAL
Apple II
Disk
$21.45

9. French Antonyms
Grades 1-6
Scholastic Software
P.O. Box 2002
Englewood, Cliffs, NJ 07632

A French drill game based on tv series "Concentration."

FRENCH
PET
8K
Cassette
$9.95

10. French Delicacy
Curriculum Applications

A vocabulary game covering the entire first year French curriculum with English hints.

FRENCH
TRS-80
Cassette
$19.95

11. French Hangman
George Earl
1302 S. Gen McMullen
San Antonio, TX 78237

FRENCH
Apple II
Disk

12. French/Spanish 1,2,3,4,5
"Schoolhouse Software"
Compu-Tations
P.O. Box 502
Troy, MICH 48099

FRENCH/SPANISH
Apple II
Disks
$120.00 (Each)

13. French I, II
TYC (Teach Yourself by Computer)
40 Stuyvesant Manor
Geneseo, NY 14454

FRENCH
Apple II
Cassette
$5.95

14. French Nouns
Comm Data
P.O. Box 325
Milford, MI 48042
Tel. (313) 685-0113

FRENCH
PET
Cassette
$7.95

15. French Vocabulary Builder
Tycom Associates
68 Velma Avenue
Pittsfield, MA 01201

FRENCH/SPANISH
PET
32K
Cassette
$15.95

16. Italian Vocabulary Drill
Powersoft Inc.,
P.O. Box 157
Pitman, NJ 08071

An editor; matching and translation drills.

ITALIAN/SPANISH/
FRENCH
Apple II
48K
Disk
$24.95

17. Language Teacher Series
by Cindy and Andrew Bartorillo
Program Store
P.O. Box 9582
Washington, D.C. 20016
Tel.(800) 424-2738

SPANISH/FRENCH
ITALIAN
TRS-80 Models I/III
32K
Atari 400/800
32K
IBM PC
64K
Disk
$29.95

18. La Grande Aventure
Creative Computing
P.O. Box 789-M
Morristown, NJ 07960

FRENCH
CP/M
32K
8" Disk
$24.95

19. Lingo Fun
Lingo Fun
P.O. Box 486
Westerville, OH 43081

GENERAL
Apple II
Disk

20. The Linguist
Synergistic Software
5221 120th Avenue S.E.
Bellevue, WA 98006

GENERAL
Apple II
48K
Disk
$40.00

21. Mystery House
Sierra On-Line Inc.,
36575 Mudge Ranch Rd.
Corsegold, CA 93614

An adventure game; directions and responses of player entirely in French. Two other games also available.

FRENCH
Apple II
Disk
$24.95

22. PLATO Vocabulary Builder
Control Data Publishing Co.
P.O. Box 261127
San Diego, CA 92126

Available in French and Spanish versions for Apple II, TI 99/4A and Atari 800; 500-word vocabulary drills.

GENERAL
Several Machines
Disk
$45.00

23. Russian Disk
Scholsatic Software
(See above)

A variety of Russian lessons. Students learn the Cyrillic alphabet, start with consonants and work through the vowels. The program provides basic instruction in the Russian alphabet; simple, medium and difficult vowels and consonants; conversational Russian; common food and drinks; common signs and store names.

RUSSIAN
TRS-80
32K
Apple II
Disk
$25.95

24. Spanish
Dorsett Educational Systems
Box 1226
Norman, OK 73070
Tel. (404) 288-2300

16-program series on Spanish words and phrases which was derived from an English reading series.

SPANISH
Atari 400/800
Disk
$79.00

25. Spanish
Mercer Systems Inc.,
87 Scooter Lane
Hicksville, NY 11801

A four tape, 18 program set that gives intensive drill and practice for the first or second year Spanish student.

SPANISH
Atari
Cassette
$14.95

26. Spanish Hangman
George Earl
1302 S. Gen McMullen
San Antonio, TX 78237

2,000 words and sentences. Excellent reviews.

SPANISH
Apple II
32K
Disk
$29.95

27. Spanish Read Master: Beginner/Intermediate/Advanced
RG Computer Workshops

A collection of five stories divided into ten passages each with reading and context clues.

SPANISH
Apple II
Disks (3)
PET
Cassettes (3)
$34.95 (Each)

28. Spanish Sirloin
Curriculum Applications

A vocabulary game covering the complete first year Spanish curriculum; English hints.

SPANISH
TRS-80
Cassette
$19.95

29. Spanish Verbs and Vocabulary
Practicando Español con la Manzana II
Conduit
P.O. Box 388
Iowa City, IA 52244

These materials provide (1) verb drills covering almost all tenses (including the perfect subjunctive and the future and conditional perfects); (2) vocabulary drills which can be keyed to any textbook of instructor's choice.

SPANISH
Apple II
48K
Disks (2)
$110.00

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